







INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

Primary Grade 5

Term 1

2022-2023

Teacher's Book

Introduction

تشهد وزارة التربية والتعليم والتعليم الفني مرحلة فارقة من تاريخ التعليم في مصر، فقد انطلقت إشارة البدء في التغيير الجذري لنظامنا التعليمي بدءًا من مرحلة رياض الأطفال حتى نهاية المرحلة الثانوية (التعليم 2.0). لتبدأ أول ملامح هذا التغيير من سبتمبر 2018 عبر تغيير مناهج مرحلة رياض الأطفال والصف الأول تلاها الصفوف الثاني والثالث والرابع الابتدائي. وفي 2022 بدأنا في تغيير منهج الصف الخامس الابتدائي وسنستمر في التغيير تباعًا للصفوف الدراسية التالية حتى عام 2030، إذ نعمل على إحداث نقلة نوعية في طريقة إعداد طلاب مصر ليكونوا شبابًا ناجحين في مستقبل لا يمكننا التنبؤ بتفاصيله.

وتفخر وزارة التربية والتعليم والتعليم الفني بأن تقدم هذه السلسلة التعليمية الجديدة، فضلًا عن المواد التعليمية الرقمية التي تعكس رؤيتها عن رحلة التطوير. ولقد كان هذا العمل نتاجًا لكثير من الدراسات والمقارنات والتفكير العميق والتعاون مع الكثير من علماء التربية في كل من المؤسسات الوطنية والعالمية لكي نصوغ رؤيتنا في إطار قومي إبداعي ومواد تعليمية ورقية ورقمية فعالة.

وتتقدم وزارة التربية والتعليم والتعليم الفني بكل الشكر والتقدير لمركز تطوير المناهج والمواد التعليمية ومديرته وفريقها الرائع على وجه التحديد، كما تتقدم بالشكر لمستشاري الوزير وكذلك مديري عموم المواد الدراسية، وكذلك تخص بالشكر والعرفان مؤسسة ديسكفري التعليمية، ومؤسسة ناشيونال جيوجرافيك ليرنينج، ومؤسسة نهضة مصر، ومؤسسة لونجمان مصر، ومنظمة اليونيسف، ومنظمة اليونسكو، والبنك الدولي لمساهمتهم في تطوير إطار المناهج الوطنية بمصر، وكذلك أساتذة كليات التربية المصرية لمشاركتهم الفاعلة في إعداد إطار المناهج الوطنية في مصر. وأخيرًا تتقدم الوزارة بالشكر لكل فرد في قطاعات وزارة التربية والتعليم الذين ساهموا في إثراء هذا العمل.

إن تغيير نظامنا التعليمي لم يكن ممكنًا من دون الإيمان العميق لدى القيادة السياسية المصرية بضرورة التغيير، فالإصلاح الشامل للتعليم في مصر هو جزء أصيل من رؤية السيد الرئيس عبد الفتاح السيسي لإعادة بناء المواطن المصري. ولقد تم تفعيل تلك الرؤية بالتنسيق الكامل مع السادة وزراء التعليم العالي والبحث العلمي، والثقافة، والشباب والرياضة. إن نظام التعليم (2.0) هو جزء من مجهود وطني كبير ومتواصل للارتقاء بمصر إلى مصاف الدول المتقدمة لضمان مستقبل عظيم لجميع مواطنيها.

كلمة السيد وزير التربية والتعليم
والتعليم الفني

يسعدني أن أشارككم هذه اللحظة التاريخية في عمر مصرنا الحبيبة والتي تمثل استمرارًا لانطلاقة نظام التعليم المصري الجديد، والذي تم تصميمه لبناء إنسان مصري منتمٍ إلى وطنه وإلى أمته العربية وقارته الإفريقية، مبتكر، ومبدع، يفهم ويتقبل الاختلاف، ومتمكن من المعرفة والمهارات الحياتية، وقادر على التعلم مدى الحياة وقادر على المنافسة العالمية.

لقد آثرت الدولة المصرية أن تستثمر في أبنائها عن طريق بناء نظام تعليم عصري بمقاييس جودة عالمية، من أجل أن ينعم أبناؤنا وأحفادنا بمستقبل أفضل، وكي ينقلوا وطنهم "مصر" إلى مصاف الدول الكبرى في المستقبل القريب.

إن تحقيق الحلم المصري في التغيير مسئولية مشتركة بين مؤسسات الدولة أجمعها، وأولياء الأمور والمجتمع المدني والتعليم الخاص ووسائل الإعلام في مصر. وهنا أود أن أخص بالذكر
السادة المعلمين الأجلاء الذين يمثلون القدوة والمثل العليا لأبنائنا، ويقومون بالعمل الدؤوب لإنجاح هذا المشروع القومي.

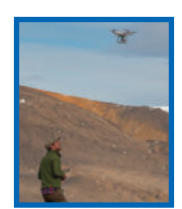
إنني أناشدكم جميعًا أن يعمل كل منا على أن يكون قدوة صالحة لأبنائنا، وأن نتعاون جميعًا لبناء إنسان مصري قادر على استعادة الأمجاد المصرية وبناء الحضارة المصرية الجديدة.

خالص تمنياتي القلبية لأبنائنا بالتوفيق، واحترامي وتقديري لمعلمي مصر الأجلاء.

الأستاذ الدكتور رضا حجازي
وزير التربية والتعليم والتعليم الفني

Contents

Theme 2



Scope and sequence



THEME 1 Role of Information and Communication Technology (ICT) in our lives

Essential Question: How can we use ICT tools together, even when we're in different places?

LESSON	TOPICS	SKILLS INTEGRATION		
		Life skills	Values	Issues and challenges
LESSON 1 Explorer in Action	• How archaeologists use ICT to share information • Different ways to record information	**Learning to do:** decision-making	**Academic values:** appreciation of technology	**Globalization issues:** technological awareness
LESSON 2 Computer accessories	• Basic computer hardware concepts • Common computer problems	**Learning to do:** decision-making	**Academic values:** perseverance	**Globalization issues:** technological awareness
LESSON 3 Networks	• Different types of networks • How computer technology has advanced from the 80s to today	**Learning to know:** critical thinking **Learning to live together:** communication	**Work values:** curiosity, appreciation of science and scholars	**Globalization issues:** technological awareness
LESSON 4 Digital communication tools	• How people communicate using computer networks • Basic scientific concepts relating to ICT tools • How computer networks help people of determination	**Learning to live together:** communication **Learning to be:** sharing	**Academic values:** appreciation of technology **Personal values:** independence	**Globalization issues:** digital citizenship, civilizational communication
LESSON 5 Internet connection problems and solutions	• Common ICT issues • How to troubleshoot problems using a process	**Learning to do:** decision-making **Learning to know:** problem-solving	**Academic values:** perseverance	**Globalization issues:** technological awareness
LESSON 6 Digital file management	• Different device accessories • File systems • How to organize information	**Learning to be:** self-management **Learning to know:** creativity	**Personal values:** independence	**Globalization issues:** digital citizenship
LESSON 7 Information search strategies	• How to plan effective searches • Using keywords and subtopics	**Learning to do:** decision making **Learning to know:** critical thinking	**Academic values:** curiosity **Citizenship values:** participate in scholarly research	**Globalization issues:** digital citizenship, technological awareness
LESSON 8 Sharing information	• Posting information on an intranet / the internet • How to share information on spreadsheets	**Learning to live together:** communication **Learning to do:** decision making **Learning to know:** critical thinking	**Work values:** perseverance **Personal values:** independence **Citizenship values:** participate in scholarly research	**Globalization issues:** technological awareness



THEME 2 Digital safety and security precautions

Essential Question: How do we keep ourselves and our data safe and secure when using ICT tools?

LESSON	TOPICS	SKILLS INTEGRATION		
		Life skills	**Values**	**Issues and challenges**
LESSON 1 Explorer in Action	• Copyright in relation to photographs • Importance of baking up photograph files	**Learning to do:** decision-making	**Academic values:** appreciation of technology	**Globalization issues:** technological awareness
LESSON 2 Protecting ourselves and our information	• Protecting personal information and data • Backing up data	**Learning to be:** communication	**Personal values:** independence	**Citizenship issues:** legal awareness
LESSON 3 Password security	• The importance of password protection • Using multi-factor authentication	**Learning to know:** critical thinking	**Work values:** proficiency	**Globalization issues:** technological awareness
LESSON 4 How to deal with fake websites	• Identifying who can help with problems with websites	**Learning to know:** critical thinking	**Work values:** proficiency	**Citizenship issues:** legal awareness
LESSON 5 Intellectual property rights	• What copyright means • When to attribute a creator's work	**Learning to do:** communication, self-management **Learning to live together:** empathy	**Work values:** respect	**Citizenship issues:** legal awareness **Globalization issues:** digital citizenship
LESSON 6 Using digital sources	• Identifying reliable websites to use as research sources • Using multiple sources	**Learning to do:** decision-making	**Work values:** transparency and integrity	**Globalization issues:** technological awareness
LESSON 7 Advanced searches	• Specific and accurate online search terms • Search engines and advanced searching tools	**Learning to do:** productivity	**Scientific values:** curiosity **Work values:** proficiency, perseverance	**Globalization issues:** civilizational communication
LESSON 8 Dcumenting information appropriately	• Paraphrasing online content • How to quote online content • How to cite online sources	**Learning to do:** decision-making, productivity	**Work values:** proficiency	**Citizenship issues:** legal awareness

About Information and Communication Technology

Information and Communication Technology (ICT) teaches the Egypt Ministry of Education curriculum for Primary 5 learners. Through thought-provoking stories, photography, and video, *ICT* profiles experts in technology as role models for students to emulate. *ICT* lessons and concepts help students learn to use technology for success in life.

Components

The course comprises these elements:

- A combined Student Book and Activity Book
- An e-book
- A Teacher's Guide with educational tasks, exercises and teaching procedures
- Downloadable worksheets
- Videos

The Aims of the Course

This course provides Grade 4 students with the skills they will need to use digital technology safely and effectively. Filled with practical, relevant content, this course helps students learn and put into practice higher-order thinking skills including critical thinking, communication, creativity, teamwork, leadership, and self-awareness. By developing higher-order thinking skills as well as learning how to become strong life-long learners, students will be well-prepared for their own future and to become productive members of society.

Course Structure

The course is divided broadly into four **themes** over the academic year, with each term covering two themes. Each theme addresses a broad concept from the Ministry of Education curriculum.

Each theme is subdivided into 8 **lessons**.

Each lesson consists of 2 two-page spreads, that include both instruction and exercises and concludes with a review and a self-assess.

TERM 1

Theme 1: Role of Information and Communication Technology (ICT) in our lives (8 lessons)

In this theme, students will learn about how different computer networks communicate, how to troubleshoot common computer hardware and software problems, and how to use ICT tools effectively and efficiently. Students will also create a spreadsheet to share information that you've found while researching online, making use of what you have learned.

Theme 2: Digital safety and security precautions (8 lessons)

As people get older, they may use the internet more and more, to search for information, send and receive messages, communicate via social media sites, and watch videos. The internet is a great place to learn and hang out with friends, as long as you do these things safely. In this theme, students will learn how to stay safe online. They will learn how to protect themselves, their personal information, and their data. Students will also learn how to conduct online research using reliable sources, follow online rules and laws, and respect other people's creative work.

THE FEATURES OF THE COURSE

* Each theme provides the following:

Theme Opener: Each theme opens with an engaging visual image to introduce the theme and to capture students' interest. Theme openers also feature the Essential Question.

The Essential Question: This is a broad inquiry into the theme to raise students' interest. Each lesson studied will provide further insight into this question. Students will return to the Essential Question in the Theme Review.

Theme Reviews: Each theme concludes with a two-page review to help students summarize and apply the most important information and skills presented throughout the theme. The Review at the end of a theme also enables students to answer the Essential Question which was first asked on the Theme Opener page.

Project: At the end of each term, students work collaboratively on a project related to the theme, through which they can apply the personal skills they acquired to the academic content. The projects allow students to engage their creativity and apply the material in a personally meaningful and relevant way.

Explorer in Action: At the beginning of each theme, students are introduced to a famous professional, so students can study a concrete example of an influential person who uses ICT tools in his work. This lesson also includes a video featuring the explorer, describing their work in their own words.

Videos: The Explorer in Action lesson features the ICT tools that the explorer uses in his work.

* Each lesson provides the following:

Objectives: At the start of each lesson, students see what they will learn.

Engage: This is a broad question to introduce students to the lesson topic.

Learn: Information is presented through texts.

Explore: This enables students to discuss the lesson topic further or do a short task related to the content.

Review: These contain three questions. They relate to the lesson objectives, the life skills, values or issues and challenges in the lesson (see below) or a personalization question, so enabling students to relate the lesson contents to their own lives.

Self-assess: At the end of the lesson, students check their progress against the Lesson Objectives.

Learn by Doing: Students apply the information they just learned in a practical way, such as carrying out a task or completing a graphic organizer.

Life skills, **Values, and Issues and Challenges:** Skills in these areas are integrated into each lesson, and are clearly marked in the Table of Contents and in the Teacher's Guide.

Creating an inclusive classroom

Education, in the age of information and teaching technologies, supports the learner's particular needs and takes into consideration his knowledge background and personal abilities. The main mission of teaching special needs students now is to teach them how to learn and adapt to their society and face their lives. That's the reason behind our interest in developing a Teacher's Guide that aims to:

- support the teachers in teaching students with minor disabilities integrated in regular schools;
- provide high quality education for everyone without discrimination;
- achieve a general development of learners in regard to their physical, mental and emotional health, as much as their abilities and capacities allow it, in addition to giving them the right amount of essential knowledge;
- create a supportive and motivating educational environment, which helps integrated SEND students fit into society inside and outside the school.

ICT is considered one of the factors that help provide equal opportunities for disabled children, strengthen educational and social integration, adjust to the requirements of the era, stay up to date with the digital age, give the students the professional and technological skills required by employment opportunities, and develop in them the abilities needed in the labor market and entrepreneurship.

What the teachers should know to integrate differentiated learners… Educational characteristics and needs:

ICT is considered very important for those with disabilities because it allows them to fully engage in the social and economical life of their societies. Steps have been taken towards enhancing their quality of life, through enabling them and helping them gain independence.

Here are the educational characteristics and needs of these categories:

Learners	Characteristics	General educational needs
Visual impairment: blind and weak sighted	- Normal IQ level, strong sensory memory, lesser imaginative ability, difficulty in forming concepts like distance and colors. - Deficiency in using gestures, facial expressions and body language.	- Converting written text to audio, writing assignments and text in Braille, and answering orally for the blind. - Using screen reader software. - Describing pictures orally for the blind and displaying them zoomed and without details for the weak sighted.
Hearing impairment	- Problems in understanding 50% of class discussions if they didn't have the opportunity to follow it visually. - Vocabulary deficiency and problems with expressive language. - Difficulty with oral learning, in linking sounds with their corresponding written signs, and also in learning linguistic concepts. - Capacity of abstract learning and thinking is not affected if information is presented with visual language. - Weak ability to focus and difficulty remembering information unless it is presented through visual education.	- Reviewing prior knowledge when presenting ICT concepts and linking them to new concepts, real-life images and simple examples from students' environments. - Assigning tasks and using the demonstration strategy to explain the activities and present them practically. - Repeating the way to use lists and software tools more than once, and not moving on to the next step before making sure they mastered the one before it. - Adding visual elements to the visual content like arrows, circles, colored words and giving more time, in collaboration with the resource room teacher, so it becomes more flexible and able to meet the needs of hearing impaired students. - Speaking while facing the learner so that he can read lips, especially when introducing new vocabulary.
Intellectual disability	- Attention deficit, weak focus, difficulty retaining information and recalling it when needed, specifically short term memory which is related to school learning. - Tendency to depend on others and a lack of independence and enthusiasm towards achieving given tasks.	- Analyzing and dividing tasks, focus on sensory activities, and do them from easiest to hardest. - Giving clear and specific instructions, and enough time to finish tasks. - Avoiding learners failing whenever it's possible, instead they should be given tasks they succeed at first, so they would keep doing the assigned tasks and feel successful.

	- Difficulty transferring experience or knowledge from one situation to another. - Clear deficiency in the use of language, speech, pronunciation of letters and words, along with using simple words and sentences, and limited vocabulary.	- Repeating the way to use lists and software tools more then once, and not moving on to the next step before making sure they mastered the one before it. - Using the demonstration strategy to explain the activities and present them practically. - Focus on the vocabulary either by writing them on the board or highlighting them in the student book. - Preparing visual representations such as mind maps when presenting some subjects that require it, to make understanding them easier. This can include adding links to websites.
Motor disability and cerebral palsy	- Inability to achieve the task given in one go. - Difficulties with language, unclear pronunciation to the point where others are unable to understand it. The reason is a very weak control over the muscles of the tongue, lips, throat and facial expressions. - Suffering from anxiety, shyness, isolation, lack of self-confidence, and lack of social interaction.	- Including them in groups and giving them tasks according to their disabilities. - Giving less homework and class assignments, and giving them enough time to finish their tasks. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
Autism	- Deficit in attention, memory and enthusiasm - Difficulty in transitioning from one subject to another while being highly selective. Hints are needed to help them remember and recall. - Ability to remember visual information is better than their ability to remember audio information. Weak listening and speaking skills. - Overreacting to noise, annoyance from bright light, difficulty distinguishing between shape and background in pictures, reluctance to touch.	- Explaining the activity before starting. - Avoiding asking them to look and listen at the same time, because of their inability to process information inputted via sight and hearing at the same time. Making sure they are paying attention. - Focusing on sensory activities and using pictures while teaching: illustrated activity tables instead of language or words; the teacher speaking to them using short sentences focusing on key words which she/he pronounces loudly and places at the end of the sentence.
Attention deficit disorder	- Deficit in attention, focus and memory. - Difficulty organizing and finishing the tasks assigned to them. - Constant movement: tendency to climb, swing and walk around. - Some find it difficult to make friends, to play with their friends or to take part in their friends' calm activities. - Difficulty with adaptive behavior and life skills.	- Making sure they understood the instructions correctly. - Using activities and instructional materials that draw their attention. - Rely on instructional games and dividing tasks into less complicated sections. - Rewarding the learner for every step he does correctly. - Seating them in specific places, using appropriate reinforcements to delimit their movement in class - Presenting a daily activity plan prepared by the teacher and repeated to students.
Learning disability	- Difficulty paying attention, focusing, memorizing, forming concepts - Difficulty with literal and visual perception, short term memory. - Difficulty understanding what they hear and linking vocabulary to behavior, differentiating between similar words, following oral instructions, choosing the words that express their ideas and remembering them. - Constant movement, rapid emotional outbursts or indifference with no desire to participate in class.	- Using short sentences and the most common words, changing tone of voice and preparing students before and after reading the text, in addition to using computers to encourage them to write. - Taking into consideration spaces between words and correcting typing mistakes.

Supporting multimedia	Supporting written and audio texts	- Support your computer with a screen reader program for the blind. - Allow blind students to listen to the lesson through computer audio as a way to help in the multimedia room. - Determine key words in the lesson (like block, download files, spam messages, etc.) and write them on the board or underline them or draw a box around them in the Student's Book for those with an intellectual disability, autism and hearing impairment. - Prepare a mind map about website links (.org, .edu, .gov, .com) to simplify their explanation for integrated SEND students - Write the main ideas and concepts on the board to give integrated students enough assimilation time during the lesson. - Take the following into consideration for written and audio texts: • dividing the texts into smaller paragraphs. • focusing on main ideas. • summarizing the text while still keeping the main ideas.
	Photos and illustrations	- Describe the pictures for the blind and zoom in on them for the weak sighted. - Describe the illustrations for the blind. - Use photos to express words that don't exist in the surrounding environment if possible or give a simple example for integrated SEND students. - Make a model of a graphic organizer on a felt board and display data on it. - Support visual representation methods for technological subjects and concepts (such as PowerPoint presentations, videos, posters, etc.), with pictures and written expressions for hearing impaired, intellectually disabled, and autistic students.
	Videos	- Play the videos about the scientists (Fred Hiebert and Jeff Kerby) in each unit accordingly, by sectioning each of them and playing one section at a time, commenting on it and deducing its main idea, then move on to the rest of the sections and do the same. - Describe the content of the videos to the blind, taking the following into consideration: • giving your comments after each video in a simple way. • making sure integrated SEND students get the idea. • summarizing the videos when finished and reviewing their ideas. • facing hearing impaired students while commenting on the videos.

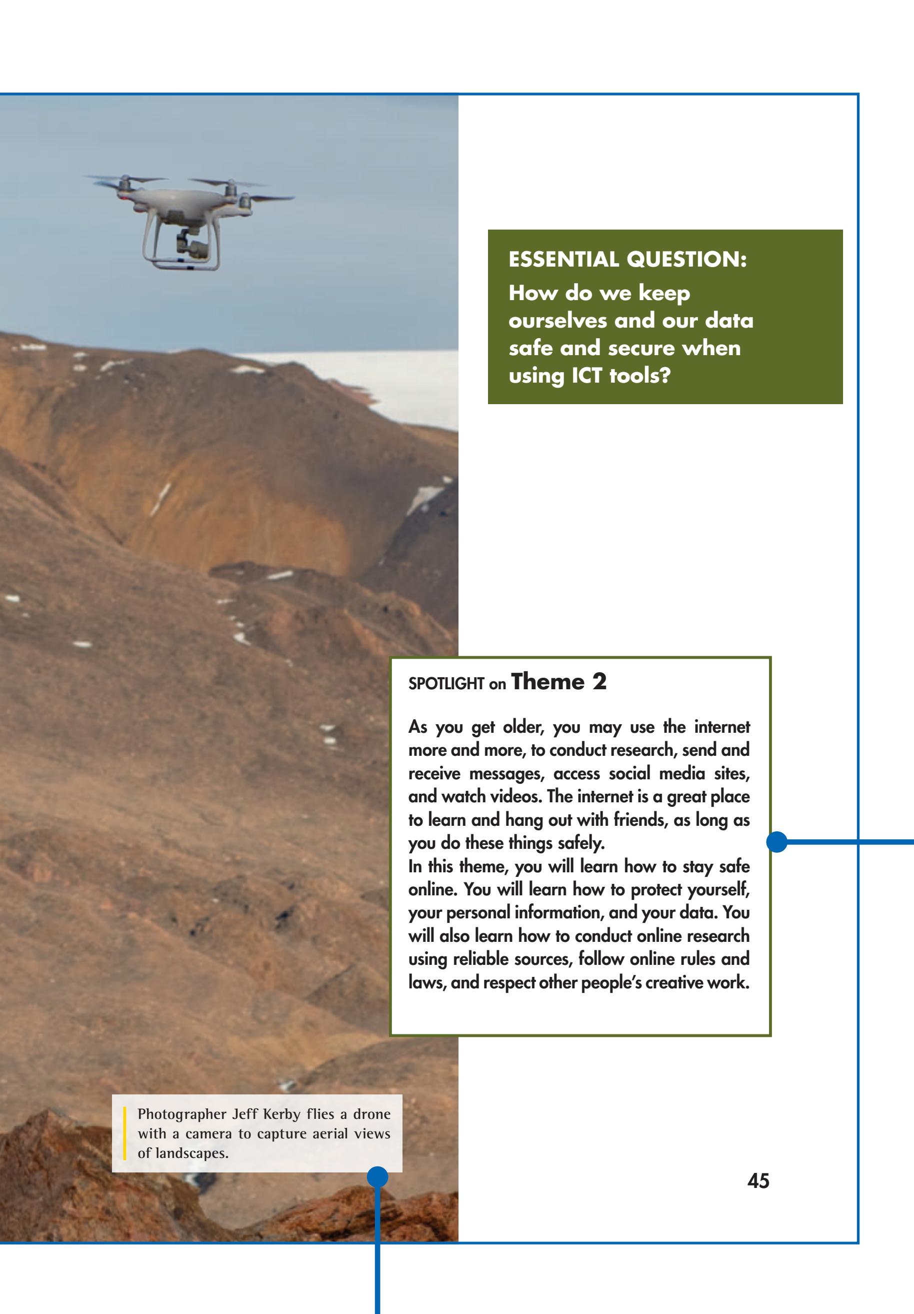
Supporting groups	- Divide blind students into big and small groups and let them know that, then ask them questions. - Place one integrated SEND student per group for Share activities. - Support students with motor disability and cerebral palsy by asking their classmates to help them write. - Raise the awareness of the class about the needs of their integrated SEND classmates to avoid negative reactions that will obstruct the learning procedure during the application of the activity (Test a partner).
Supporting digital safety	- Determine ways of preserving safety measures while using the internet and write them on the board in concise, organized and short sentences, or put them into a mind map for integrated SEND students. - Make a table that includes the positive and negative impacts of ICT tools using short, simple and specific sentences. - Present the lesson by letting integrated SEND students act it like a play to better clarify the idea of bullying. - Summarize the ethics of using ICT tools by identifying main sentences and ideas. - Take into consideration the possibility of integrated SEND students being bullied and encourage them to face that without fear or hesitation and to discuss what happened with others.

Theme Opener

Following the curriculum, the content of the course is divided to match the four themes of the course across the year.

The theme opens with a striking photograph of the National Geographic Explorer in action. The powerful image engages the learner with the Explorer and the theme topic.





Every theme focuses on a National Geographic Explorer, and examines how they use ICT in their lives. Each Explorer is chosen to link to the theme of the theme and to provide a practical example of ICT in action.

A short caption explains what students can see in the photograph. Further information is provided in the Teacher's Guide where applicable to aid class discussion.

Lesson Walkthrough

The format of each lesson follows an Engage, Learn, Explore, Review and Self-assess format. It opens with relevant lesson objectives.

The first lesson of every theme is an Explorer in Action lesson. This allows students to learn more about a National Geographic Explorer and their work.

A clear lesson heading is provided along with a lesson title.

This box ties in the objectives of the lesson whilst also asking students to come back at the end of the lesson for self-assess. The teacher can easily follow up on any students who might be having difficulties whilst also giving extra challenges to advanced learners.

An Engage question opens each lesson. Using the photograph as a stimulus, the teacher can lead a focused and interesting class discussion.

The Teacher's Guide also provides suggested aims for each Engage question, which links to the curriculum.

LESSON 1 EXPLORER IN ACTION

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Give examples of how to share information.	Very well	OK	Need more work
• Determine ways to record information.	Very well	OK	Need more work
• Communicate and exchange information with my colleagues through one of the educational platforms.	Very well	OK	Need more work

Engage

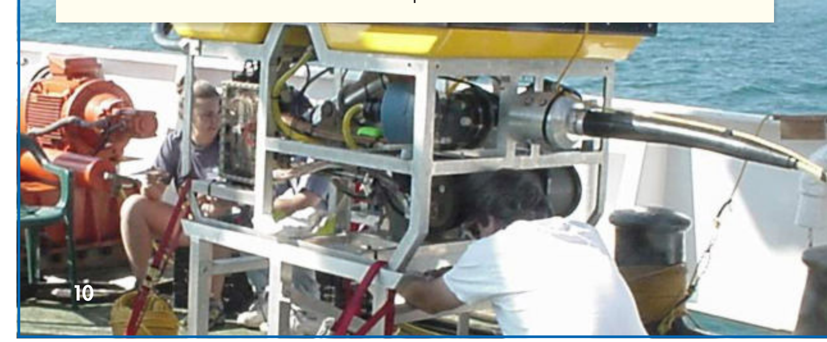
What ICT tools do you use regularly? How do they help you achieve your different tasks?

Learn

Fred Hiebert is an archaeologist and explorer. He is also the Explorer in Residence for the National Geographic Society. As an archaeologist, he studies the past by excavating, observing, and writing about objects and sites.

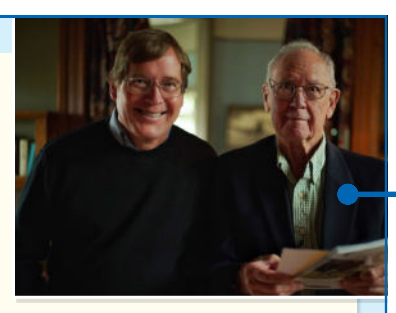
In his daily work, Mr. Hiebert uses the Word processor program (Word) to write reports, and the Excel spreadsheet program to prepare and show graphs. When he needs to present the results of his research to his team, he uses the PowerPoint presentation program. He ensures that the slides are easy to read and make the information clear. When he wants to communicate more formally, he uses printed letters and e-mails, or he hands over documents in person.

As part of his role, Mr. Hiebert is also a mentor who guides his students and colleagues around the world. Mentoring is advising or training someone on a subject you have a lot of experience in. Have you ever mentored others? It is a great way to pass on knowledge and skills. Mentors share their experience, including problems that may arise and how to deal with them. This helps others advance faster.



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The Learn stage of the lesson is often a text which students read. The length of the text is suitable for the students' age and potential for conceptual understanding. The Explorer's story offers an example of the theme. In this theme about ICT in our lives, the archaeologist Fred Hiebert is introduced along with the various different tools he makes use of in his work.



Mr. Hiebert generally prefers to communicate with people through face-to-face, in-person meetings. At times, this is not possible because he is away on an expedition, or the people he is meeting with are in different countries. In such cases, Mr. Hiebert holds virtual meetings using platforms like Zoom and WhatsApp. These meetings have to be scheduled at a time that is suitable for everyone, which can be difficult due to time difference between countries. Mr. Hiebert believes it is important to follow up a virtual meeting or telephone call with official notes documented in an email or sent as a Word document. This ensures that everyone involved has the same information and a copy to keep.

Sharing information has become vital in our day-to-day lives. Technology has helped to make this an easier task. Moreover, the Ministry of Education makes sure that students have a record of what they should have learned in the classroom via the satellite broadcasting channels (educational channels) affiliated by the Ministry of Education and YouTube channel, "Madrasitna". On the YouTube channel, there are videos on each school subject. This provides a second opportunity for students who missed a lesson, need further explanation of a lesson, or would just like a quick review. "Madrasitna" is an opportunity for students to watch lessons whenever they choose.

Watch the video about Fred Hiebert and his work. What does he do to mentor others? What are the key skills to mentoring others? What ICT tools help him mentor?

Explore

Sometimes technology can be challenging and scheduling calls can be difficult. That is why Mr. Hiebert always has to consider many factors, such as the time difference between countries. In your opinion, what other challenges are there when making online virtual calls? How can you overcome those challenges?

Review

1. List the ways you use ICT tools. What ways might you use them in the future?
2. Why is it important to share information in today's world?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

11

Concepts that may be unfamiliar are introduced with simple explanations and images to aid understanding.

Each Explorer in Action lesson includes a video which introduces the Explorer and their work.

The Explore section of the lesson is a follow-up task which enables active learning and encourages critical and higher-order thinking.

The Review section of the lesson enables students to check their understanding of the main principles of the lesson. This can include critical thinking or further engagement with the life skills or values in the lesson.

This section of the lesson allows for active self-assess. Teachers ask students to go back to the objectives at the beginning of the lesson and check what they can and can't do.

Lesson Walkthrough

A 'Learn by doing' spread follows the main content for each lesson. The aim of these pages is to further expand upon and check students' understanding of the material.

The heading shows a clear, identifiable link with the preceding part of the lesson.

Life skills is one of the main three pillars of the curriculum. The question here further develops the topic from the Learn section of the lesson.

Students are regularly asked to present their work according to their own vision, in charts and graphic organizers. This encourages them to work methodically and to think about the best way to present information.

Learn by doing **LESSON 1** **EXPLORER IN ACTION**

1 Think and answer about me

1. What information you learned today would be useful for others?
2. Why is it important?
3. Where can you record that information?
4. How would you share that information?

2 Research

Watch a video on the "Madrasitna" satellite or YouTube channel. Then answer the questions.

1. What new information have you learned?
2. How will you record this new information?
3. What information might be useful for others?

12

The 'Learn by doing' spreads feature a variety of headings, including *Comprehension*, *Critical thinking*, *Graphic organizer*, *ICT and me*, *Research*, *Life skills*, *Values*, and *Issues and challenges*.

3 Comprehension

Read, think and answer

Virtual meetings, or video conferencing, provide an effective method to mentor others. During video conferencing, people can see and hear one another. They can also share information found on their screens and even send and receive documents. Virtual meetings became very popular in 2020. Since then, more and more people have used them worldwide.

1. In your opinion, how has video conferencing made it easier for people to mentor others?
2. How do virtual meetings help people communicate and share knowledge?

4 Creative planning

Make a plan to mentor someone you would like to train on a topic that you know a lot about.

1. Who will you choose?
2. What information will you share with them?
3. Which virtual meeting platform will you use?

13

A *Critical thinking* section encourages students to think more deeply about the topic and how it relates to our lives. It includes both factual and imaginative tasks which encourage creativity.

How to Teach the Stages of a Lesson

Each lesson includes the same sections, so a consistent approach can be applied. Each section can be taught by following one of several **routines** – consistent sequences that follow the same steps each time. This way, teachers cover the material, and students will know what to expect. However, there is room for a teacher's creativity as well, and there are supporting suggestions in the Teacher's Guide.

Theme Opener pages: Use the photograph on the opening spread to elicit ideas and background knowledge about the theme from students. Ask the Essential Question on this page to direct their attention to the material they will be studying.

Lesson Objectives: To make sure students know what they will be covering in the lesson, point out the specific goals of each lesson. Have students first reflect on what they already know; this will help them see their progress by the end of the lesson. This section is revisited at the end of the lesson for the Self-assess. Use the routines **Time to Explore**!, **What Do I Need To Do?**, or **Understanding Objectives** to guide students through this section.

Engage: To introduce students to the lesson topic and raise their interest, use the questions in this section to help students activate their background schema. This helps prepare them for the reading to follow. Use the routines **Think-Pair-Share**, or **Photo Detectives!** to guide students through this section.

Learn: Use the reading in this section to present new information about the lesson topic. Students will not only learn content but also improve their reading and critical thinking skills. Use the routines **Preview**, **K-W-L Chart**, **Taking Notes**, **Mind-Mapping**, **Popcorn Reading**, or **Buddy Reading** to guide students through this section.

Explorer in Action: These sections feature real people. It is easier for students to understand what professionals do in their careers if they have specific contemporary examples. Students both read and watch videos to learn about their lives and contributions. You can bring in additional information about these people, or you may choose to talk about other well-known Egyptians in the same field as further examples.

Videos: The videos in the Explorer in Action sections provide students with a variety of input. Students often find video motivating and captivating. However, the videos are optional, so if your classroom context does not allow for this type of media, you can still cover all of the necessary material. In this case, you might wish to bring in additional images from books or the internet so that students do not feel they are missing anything. For videos, use the routine **Preview**, **View**, **Review**.

Explore: In this section, ask follow-up questions to help students apply the information they just learned to their own lives and contexts. This is a good opportunity to showcase the diversity in students' lives and opinions. Use the routines **Time for a Discussion!**, **Brainstorm**, or **The 2 to 4 Discussion** to guide students through this section.

Review: To wrap up the lesson and check comprehension, use this section to enable students to consolidate the lesson information and identify key ideas. If students have trouble with any of the tasks or questions in this section, clear up any misunderstandings or questions before moving on to the next lesson. Use the routines **Test a partner** or **Family Test** to guide students through this section.

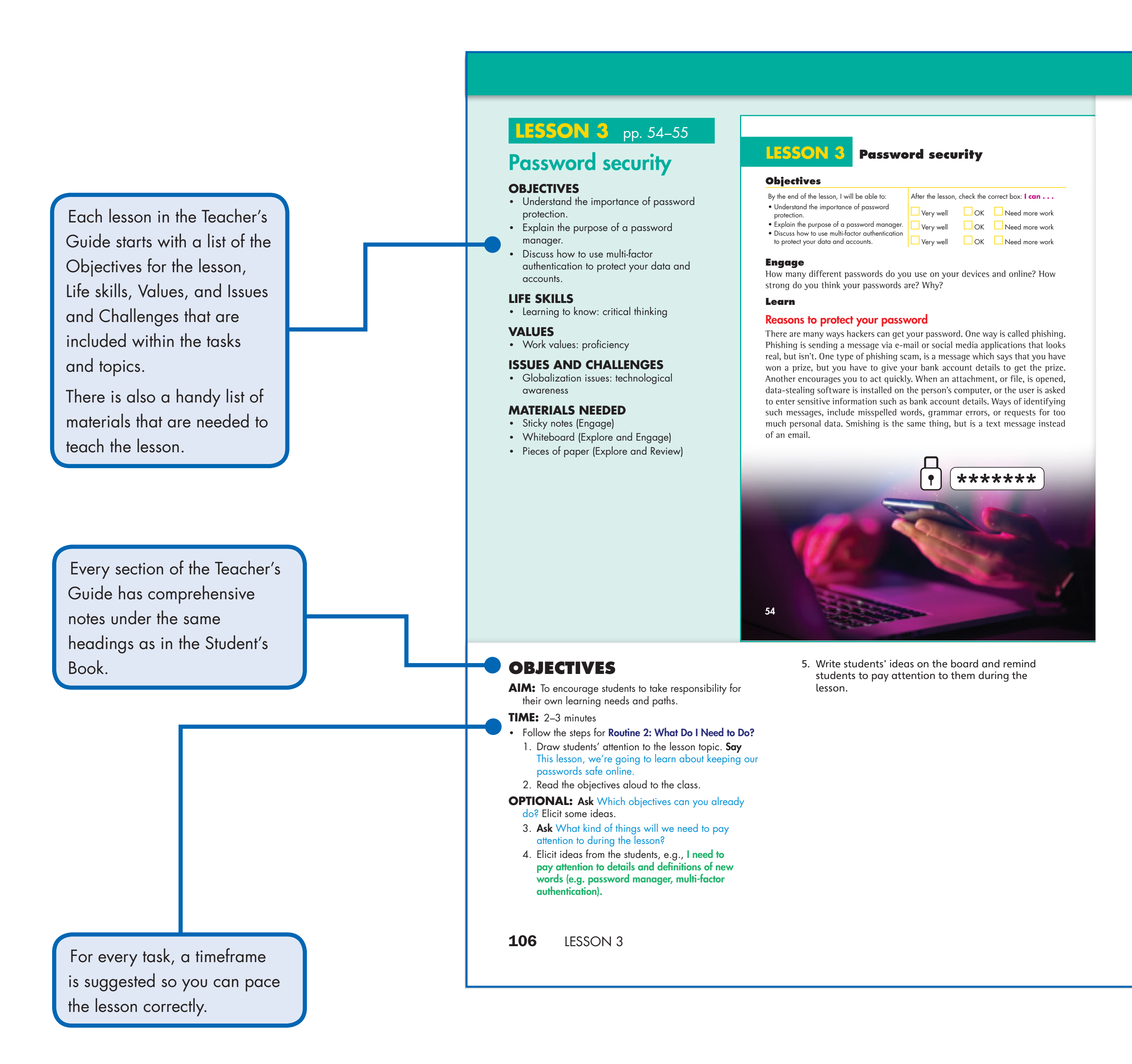
Self-assess: Use this section for students to evaluate their own understanding and progress. Direct their attention back to the lesson objectives, and have them complete the checkbox. If any students still feel they need more work, either spend more time as a class on this section or help the students individually. Use the routines **3-2-1** or **Promise!** to guide students through this section.

Learn by Doing: Give students the opportunity to engage with the lesson content through practical application. This is the perfect time to encourage creativity and to let students include art in their academic work.

Theme Reviews: These sections give students the chance to see their own progress in the course. Ask students to reflect over the entire theme and recall the most essential information. This is an excellent place for pair and group work, so students can help each other. Give them time to ask you any necessary questions.

Projects: In the projects, students work collaboratively in groups to apply the lesson topic to their own lives in a creative, meaningful way. This is a perfect time to encourage self-expression. Read through these sections in advance at the beginning of the week to plan how you will time the projects and to see if any students would have challenges outside of the classroom. Knowing these issues in advance will make them easier to solve. Don't be afraid to adapt the assignments to meet individual students' circumstances if necessary.

How to Teach the Course



Each lesson in the Teacher's Guide starts with a list of the Objectives for the lesson, Life skills, Values, and Issues and Challenges that are included within the tasks and topics.

There is also a handy list of materials that are needed to teach the lesson.

Every section of the Teacher's Guide has comprehensive notes under the same headings as in the Student's Book.

For every task, a timeframe is suggested so you can pace the lesson correctly.

LESSON 3 pp. 54–55

Password security

OBJECTIVES

- Understand the importance of password protection.
- Explain the purpose of a password manager.
- Discuss how to use multi-factor authentication to protect your data and accounts.

LIFE SKILLS

- Learning to know: critical thinking

VALUES

- Work values: proficiency

ISSUES AND CHALLENGES

- Globalization issues: technological awareness

MATERIALS NEEDED

- Sticky notes (Engage)
- Whiteboard (Explore and Engage)
- Pieces of paper (Explore and Review)

LESSON 3 **Password security**

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Understand the importance of password protection.	☐ Very well	☐ OK	☐ Need more work
• Explain the purpose of a password manager.	☐ Very well	☐ OK	☐ Need more work
• Discuss how to use multi-factor authentication to protect your data and accounts.	☐ Very well	☐ OK	☐ Need more work

Engage

How many different passwords do you use on your devices and online? How strong do you think your passwords are? Why?

Learn

Reasons to protect your password

There are many ways hackers can get your password. One way is called phishing. Phishing is sending a message via e-mail or social media applications that looks real, but isn't. One type of phishing scam, is a message which says that you have won a prize, but you have to give your bank account details to get the prize. Another encourages you to act quickly. When an attachment, or file, is opened, data-stealing software is installed on the person's computer, or the user is asked to enter sensitive information such as bank account details. Ways of identifying such messages, include misspelled words, grammar errors, or requests for too much personal data. Smishing is the same thing, but is a text message instead of an email.

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OBJECTIVES

AIM: To encourage students to take responsibility for their own learning needs and paths.

TIME: 2–3 minutes

- Follow the steps for **Routine 2: What Do I Need to Do?**
  1. Draw students' attention to the lesson topic. **Say** This lesson, we're going to learn about keeping our passwords safe online.
  2. Read the objectives aloud to the class.

OPTIONAL: **Ask** Which objectives can you already do? Elicit some ideas.

  3. **Ask** What kind of things will we need to pay attention to during the lesson?
  4. Elicit ideas from the students, e.g., **I need to pay attention to details and definitions of new words (e.g. password manager, multi-factor authentication).**
  5. Write students' ideas on the board and remind students to pay attention to them during the lesson.

106 LESSON 3

The aim of each activity is explained, making it easy to see at a glance how the task builds students' knowledge and skills.

Suggested language for you, the teacher, is set in blue so that it is easy to find and follow.

ENGAGE

AIM: To help students organize their thoughts and ideas regarding lesson objectives.

TIME: 5–7 minutes

- Follow the steps for **Routine 8: Ideas Organizing.**
  1. Draw students' attention to **Engage**. Read the questions aloud. Elicit one or two answers from the class.
  2. Give each student several sticky notes. **Say** *Write one thing that you use a password for on each sticky note.* (e.g.: **email, social media, a game app, the school website.**)
  3. When students are finished. **Say** *Now think about how strong your passwords are and organize your sticky notes into two groups: things with strong passwords and things with weak passwords.*
  4. Form pairs. **Say** *Explain why you think your passwords are strong or weak. How can you make the weak ones stronger?* Remind students to talk about their passwords in general terms only, e.g. referring to letters, numbers, special characters, etc. They should not reveal their actual passwords, even to their friends.
  5. Have some students share their ideas with the class.

OPTIONAL: Write examples of weak passwords on the board, e.g.: *123456, password, abc123, Hamid123*. Ask students to make each one into a strong passwords and write their suggestions on the board, e.g.: *135@@246, !PA55w0rd, AbC@1*2!3#, 321DiMaH!!.*

LEARN

AIM: To enable students to read text in a way that maintains their interest; to help students improve their own reading ability.

TIME: 15–20 minutes

- Follow the steps for **Routine 16: Buddy Reading**.
  1. Form pairs. Students sit with a classmate, preferably with a similar reading ability, shoulder to shoulder.
  2. **Say** *You're Reading Buddies. That means you're reading friends, so your job is to help each other. You're going to take turns reading the text to each other. If you're reading, remember you can ask for support from your Reading Buddy, or even ask them to take over for a while. I'll be moving around the classroom if you need me.*
  3. Point to the first paragraph of the text. Tell students to take turns reading each paragraph aloud to their partner.
  4. While Reading Buddies work together, circulate through the room and provide help with pronunciation and comprehension as necessary.
  5. To speed up the lesson, shout *My Turn!* and read a section aloud. Then hand over the next section to the buddies. Continue alternating like this, so that they receive practice listening to you, as well as to each other.

OPTIONAL: Ask students to summarize the text as a class discussion and check comprehension of new words.

There are plenty of optional extra tasks suggested in the notes for the teacher. These can be used to offer further practice for students who need support, or to provide extra material for fast finishers.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Writing a glossary on the board of key terms (hacker, phishing, password manager, smishing, biometrics) and their explanations to be used as a reference during the lesson. - Writing the abbreviations PII (personal identifiable information), PIN (personal identification number) and MFA (multi-factor authentication) with their full forms on the board to be used as quick reference throughout the lesson.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Reading aloud the text message on the phone for the blind, and displaying both zoomed for the weak sighted.

LESSON 3 **107**

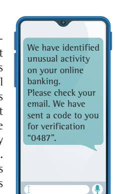
Answers are set in orange text so that they can be referred to easily.

How to Teach the Course

Password managers

You need strong passwords to help protect your personal data from hackers. A password manager creates a strong, unique password for each of your accounts. It also tells you if the passwords you already have are too weak or if you've reused them. It can even tell you if one of your passwords has been stolen online.

Multi-factor authentication



Passwords can also be strengthened through Multi-Factor Identification (MFA). This means you provide at least two ways of identifying yourself. It often combines a known factor, such as a password or PIN (personal identification number), with a factor you have, such as an email or a one-time code. For example, you might enter your password on a game website and receive a text verifying you are signing on to the site. Only after both steps are complete can you access the game. This means hackers who access your online passwords through data breaches or phishing attacks can't access your accounts because they don't have the second factor. Another type of MFA is when you log into one of your accounts from any device other than your permanent device. For example, you try to log into the game website on a different PC to your usual PC. You will be sent a text message to your mobile, asking you to confirm that you are the person who owns the email address that you are logging in as. The text message will include a number code which will give you access to your account, and it is specified for a short period of time and for one time only.

Explore

In a group, make a list of the advantages of MFA. Then brainstorm and list the disadvantages. Discuss whether the advantages outweigh the disadvantages or vice versa. Share your results with the entire class.

Review

1. What examples of phishing or smishing attacks have you heard of or seen?
2. Have you used multi-factor authentication or have you seen someone else use it? What kinds of verification did they use?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

55

In every lesson, there is a BE THE EXPERT section. Use the additional information to provide background about the subject to the students.

BE THE EXPERT

Multi-factor authentication is also referred to as "two-step verification," because it requires an individual to verify their identity using more than one method. Multi-factor authentication is required because passwords can be stolen, cracked, or automatically filled in on public or stolen devices. Secondary authentication can be receiving a verification code via text message or phone call, accessing a multi-factor authentication app on a smartphone or answering a secret question that only the account owner can answer. Online stores and banks often use MFA, and some companies require their employees to verify their identity in several steps to access corporate software or files.

TEACHING TIP

Consider helping students to curate a glossary of terms related to cybersecurity using a sheet of note paper. They can refer to this glossary as they move through the theme.

HOME-SCHOOL CONNECTION

Have students show the phishing email (Learn by Doing Activity 2) to their family members and ask them to read it. Students can then ask their family members if they think it is a real email and if they would respond to it. Then they can explain why it is a phishing email and point out the suspicious information.

108 LESSON 3

Each lesson also has a teaching tip specific to the lesson. This can be an idea for classroom management or and additional activity.

The Home-School Connection offers an idea for students to share their work with family and friends. This is a great way to show parents and carers what students are studying in class and to involve them in their child's learning.

The Routine which the notes suggest for each activity is clearly named, so that they can be found and consulted on the Routines list. If it is the first time that a Routine is suggested, it is fully explained.

EXPLORE

AIM: To enable students to organize what they have read using a graphic organizer and to compare and contrast ideas.

TIME: 8–10 minutes

- Follow the steps for **Routine 23: T-chart**.
  1. Draw students' attention to Explore. **Say** *In the text, we read about multi-factor authentication and now we are going to think about this a little more.* On the board, draw a T-chart with the column headings *advantages* and *disadvantages*:

advantages	disadvantages

  2. Form groups. Give each group a sheet of paper. **Say** *Copy the T-chart. Write the advantages of multi-factor authentication (MFA) in the first column.* (Suggested answers: **You have to provide more than one type of identification, so it is more difficult for hackers to access your accounts – even if they have your password; a hacker can't copy your biometrics, etc.**) *Then, write the disadvantages of MFA in the second column* (Suggested answer: **Takes longer to log into websites, accounts, etc.**) **and decide if the advantages outweigh the disadvantages or vice versa.**
  3. Have students discuss and complete their T-charts. Move around and listen to groups as they are talking. Give help, if needed.
  4. When students are finished, get feedback from the groups.

OPTIONAL: Students can copy their completed T-chart into their notebooks.

REVIEW

AIM: To check and consolidate the knowledge students should have learned today.

TIME: To be completed at home

- Follow the routine for **Routine 26: Family test**.
  1. Draw students' attention to **Review**.
  2. **Say** *You're going to ask a family member to test you on your knowledge.*
  3. **Say** *First, you are going to copy some questions on a piece of paper. Later on today, someone in your family will ask you the questions. Tell them everything you know!*
  4. Have students copy the Review questions to take home so that family members can test them.
  5. When students return to class, follow up by asking them if they were able to answer the questions easily.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 29: Promise!**
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to…*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g.: *I'm going to try to… take notes during class, ask the teacher when I don't understand, take part in class discussions, listen when others speak, etc.*

  5. Praise students for their efforts.

Statements and answers that you might expect from students are highlighted in purple.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
Use the demonstration strategy to explain multi-factor authentication.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Reading aloud the text message on the phone for the blind, and displaying both zoomed for the weak sighted.

How to Teach the Course

The Learn by doing pages are also explained in full, with notes on every activity.

Answers for tasks which involve completing tables, graphs, and graphic organizers are clearly laid out.

Learn by doing **LESSON 3** pp. 56–57

COMPREHENSION

AIM: To reflect on how students use different verification (or authentication) methods in their everyday lives.

TIME: 5–7 minutes

1 Think and answer

1. **Say** *We have learned about different verification methods to check that something is true.*
2. Ask students if they can remember any of the different verification methods they read about in the previous lesson. (Suggested answers: **a password, a PIN number, a text with a one-time code**)
3. Draw students' attention to the chart and read the verification types in the first column. Check that students understand what they are. Then, read the headings for the other three columns.
4. Read the first option again your fingerprint. **Ask** *Is a fingerprint something I know, something I have, or something I do?* (**something you have**). Wave your hand and say *It's something I have, so I check the second column.*
5. Have students work independently and go through the remaining verification types, checking the correct column.
6. When they are finished, help students check their answers.

	Something you know	Something you have	Something you are or do
your fingerprint		✓	
a text message		✓	
the answer to a security question	✓		
a verification code	✓		

110 LESSON 3

Learn by doing **LESSON 3** **Password security**

Comprehension

1 Think and answer

Check the type of verification for each item below.

	Something you know	Something you have	Something you are or do
your fingerprint			
a text message			
the answer to a security question			
a verification code			

56

Issues and challenges

2 Look and write

New message

To: reemhassan@egypt.com
From: bankegypt@342gf4236dss.com

Dear Sir,
Thank you for your bisiness! You won a vacation to Hurghada! But, hurry!
This prize only good today.

If the link doesn't work, reply to this email with your name, address and bank account number. Hurry!

Sign in to get your prize!

Sincerely,
Head of Customer Service
Bank of Egypt

SEND

1. How does the message encourage you to respond?

2. What errors or problems do you see in this phishing email?

ICT and me

3 Think and answer

Are there people you know who don't know about phishing and smishing? What can you tell them to help them protect themselves from these scams?

57

ISSUES AND CHALLENGES

AIM: To help students recognize common elements of phishing scams to help them protect themselves.

TIME: 12–15 minutes

2 Look and write

1. Ask students to read the email silently.
2. When they are finished reading, ask questions about the text: *What kind of text is this?* (**an email**) *Who is it to?* (**Reem Hassan**) *Who is it from?* (**the Head of Customer Service at the Bank of Egypt**) *What is their email address?* (**bankegypt@342gf4236dss.com**)
3. Next, read questions 1 and 2 aloud. Have students read the email again and answer the questions independently. Then, put them in pairs to compare their answers.
4. Check the answers with the class. (1. **by clicking on a link or replying to the email quickly** 2. **The sender's address doesn't look official; the email begins *Dear Sir* (it should begin *Dear Madam* or Dear *Miss/Mrs Hassan*); *business* is misspelled; there is a grammar mistake *This prize only good today*; Reem's bank wouldn't need her account information.**)

Invite students to say whether they noticed that the email was a phishing email right away.

OPTIONAL: Engage students in a short class discussion. Ask questions, e.g., *How many times did you have to read the email before you realized that it was a phishing email? Do you think you would have responded to the email?*

ICT AND ME

AIM: To help students consider how to protect themselves and people they know from phishing and smishing scams.

TIME: 8–10 minutes

3 Think and answer

1. Read the questions. Verify that students understand what they are supposed to do.
2. Have students complete the activity individually. Walk around and help students as needed.
3. When students are finished, they can compare their ideas in pairs or groups.
4. Invite students to share the responses they wrote. Provide feedback as necessary.

EXTENSION ACTIVITIES

1. Have students name the types of verification you use and where you use them. **Say** *Check the types of verification you use and where you use them.* Provide an example of something you use: *I use a verification code to make a payment online with my credit card.* Give students time to complete the activity, and then have them compare their notes in pairs or small groups.
2. **Say** *Imagine you are Reem, and you replied to the email from the "bank" in Activity 2. What do you think happened next?* Form groups and have students discuss their ideas.
3. Have students role play a conversation between Reem and her real bank manager. Tell them to choose between calling the bank manager to confirm the email and calling the bank manager to say that her money has been stolen.

LESSON 3 **111**

ICT AND ME activities offer students a chance to personalize the topic and apply their knowledge to their own situation.

Suggested Extension activities encourage students to do further research on the topic. There are suggestions included that do not require access to technology, as well as a technological option. Teachers can assign the tasks that are best suited to their students.

Teaching Routines

Teaching Routines

The Students need to know what they should understand, what should be done and what's expected from them by the end of each lesson. Having the same sections in every lesson is one way to achieve this; using teaching routines is another way.

A **routine** simply means a set of organized steps that is repeated in similar circumstances. As you use a routine again and again, it becomes easier and easier to use because the pattern is familiar. You will never be left with a page in the Student's Book that you don't know how to teach. You will always have the necessary language to explain the lesson. However, if you wish to adapt the routine to your own classroom or context, you certainly can, as long as you meet the stated lesson objectives.

You will start Theme 1 with just one or two routines for each section, and as the term progresses, one or two more routines will be added for the main lesson sections. In this way you can have both consistency and variety to keep your teaching both structured and fresh.

Here are the teaching routines. Examples of language that you would say are in blue; examples of what you would write on the board are in purple; examples of what students might say are in green; answers and suggested answers are in orange. Remember that these are examples only, and in specific lessons, the language is adjusted to reflect the Student Book.

OBJECTIVES ROUTINE 1
Time to Explore!

AIM: To engage students' interest in the lesson objectives and content.

TIME: 2–3 minutes

1. Draw students' attention to the Lesson topic. **Say** *This lesson we're going to learn about <the lesson topic>.* (See the Lesson Plan.)
2. Read the objectives aloud to the class.
1. Write on the board *Now's our chance to explore …* . To ensure that students think in detail about the objectives, write more actions directly below *explore*, e.g: *think about, learn about, study, discuss, look at, investigate, consider, plan*.
2. Give students a minute to look at the lesson and assess what they'll explore.
3. Elicit answers from individual students, e.g.: **Now's our chance to ... read a map!**

OBJECTIVES ROUTINE 2
What Do I Need to Do?

AIM: To encourage students to take responsibility for their own learning needs and paths.

TIME: 2–3 minutes

1. Draw students' attention to the Lesson topic. **Say** *This lesson we're going to learn about <the lesson topic>.*
2. Read the objectives aloud to the class. **Optional: Ask** *Which objectives can you already do?* Elicit some ideas.
3. **Ask** *What kind of things will we need to pay attention to during the theme?*
4. Elicit ideas from the students, e.g., **I need to pay attention to dates and times!**
5. Write students' ideas on the board and remind students to pay attention to them during the lesson.

OBJECTIVES ROUTINE 3
Understanding Objectives

AIM: To ensure that students understand the objectives of the lesson.

TIME: 2-3 minutes

1. Draw students' attention to the Objectives. **Say** *To meet the objectives of a lesson, it's a good idea to make sure that you understand what the objectives are actually saying.*
2. Read the objectives aloud to the class.
3. **Ask** *Are there are any words or phrases in the objectives that you don't understand? What are they?*
4. Explain any unfamiliar terms or vocabulary. Some students, for example, may be unfamiliar with the Egyptian Knowledge Bank. Explain: *The Egyptian Knowledge Bank is an online resource for teachers, students, and the public in general. It has links to books, articles, and all kinds of information. We'll be learning more about it in this lesson.*
5. Remind students that they will check the I can boxes after completing the lesson.

OBJECTIVES ROUTINE 4
Information, Please!

AIM: To help students exchange information they already know in connection with the objectives.

TIME: 4-6 minutes

1. Tell students that they will be paired up with a classmate, and that they will then share what they know about the objectives.
2. Form pairs of students, then read aloud the objectives. Ask partners to take turns sharing what they already know about intranets, the internet, and spreadsheets. **Ask** *How are intranets similar to the internet? How are they different? What's a spreadsheet and how to you use it?*
3. Give partners a few minutes to share their ideas with each other.
4. Tell students that time is up. Invite partners to summarize what they talked about. Use their comments to lead a class discussion about the topic.

OBJECTIVES ROUTINE 5
What do I already know?

AIM: To help students activate prior knowledge related to the lesson content.

TIME: 5 minutes

5. Draw students' attention to **Objectives**. **Say** *Take a sheet of paper. Make a chart with (the number of objectives). I am going to read out the objectives. For each objective, write some notes in a column of the chart of what you already know about this topic.*
6. Read the objectives aloud to the class. Pause for 20 to 30 seconds between each objective.
7. Put students into small groups. **Say** *Share what you know about each objective.*
8. Then have a class discussion. Ask students to share their ideas about each objective.
   OPTIONAL: Use the words as a starting point to have students clarify their thoughts and ideas. **Ask** *If you don't know anything about an objective, what do you want to find out?*

ENGAGE ROUTINE 6
Think-Pair-Share

AIM: To enable students to participate confidently and collaboratively in a class discussion that leads to the objectives of the lesson.

TIME: 2–5 minutes

1. Draw students' attention to **Engage**.
2. **Say** *I'm going to ask you a question. Don't say anything! Just think about it quietly.*
3. Read aloud the question. Let students think silently about some possible answers. They may make simple notes if they wish.
4. After a minute, **say** *Now sit shoulder to shoulder with a classmate and share ideas. You can make notes, but keep them very short.*
5. Check that the students are comparing their ideas with a classmate.
6. **Say** *I'm going to ask the question again. This time, put up your hand to answer.*
7. Read the question aloud again. Call on students with their hands up and have them share their ideas with the class. They can refer to their notes but shouldn't read whole sentences aloud. **Optional:** To encourage more discussion, **ask** follow-up questions *<Name>, what do you think? <Name>, why do you think that? Can you give an example?* etc.

ENGAGE ROUTINE 7
Photo Detectives!

AIM: To engage students in a discussion that leads to a lesson objective or life skill; use critical thinking to investigate clues in photos.

TIME: 2-5 minutes

1. Draw students' attention to **Engage**. Tell students to cover the photo with a book.
2. Read the Engage questions aloud.
3. Elicit some quick answers from the class.
4. **Say** *You're going to be photo detectives! Uncover the photos and look for clues!*
5. **Say** *Sit knee to knee. Investigate the photos. Tell each other what you find.*
6. Read the Engage questions aloud again. Elicit answers from individual students.
7. See the Lesson Plan for answers and follow-up questions.

ENGAGE ROUTINE 8
Ideas Organizing

AIM: To help students organize their thoughts and ideas regarding a lesson objective.

TIME: 5–7 minutes

1. Draw students' attention to **Engage**. Read the question(s) aloud. Elicit one or two answers/ideas from around the classroom.
2. Give each student several sticky notes. **Say** *Now write your own answers/ideas. Write one on each sticky note.*
3. When students are finished, **say** *Now organize your answers/ideas into groups (e.g. strong/weak, positive/negative, good/bad)*.
4. Form pairs. **Say** *Explain why you have arranged your ideas this way.*
5. Have some students share their ideas with the class.

ENGAGE ROUTINE 9
Around the World

AIM: To activate interest in the lesson content through a game-like discussion.

TIME: 3-4 minutes

1. Read aloud the question in **Engage**. Model an answer, using an example from your own personal experience. **Say** *One time I created a PowerPoint slide show, and I forgot where I saved it. But I was able to find the slide show using the "this PC / my computer" feature on my computer.*
2. Designate the next person to share by throwing a ball or bean bag to a student. Have him or her respond to the Engage questions by telling about an ICT problem he or she had and how it was resolved.
3. When the student is finished, have him or her throw the ball to the next student, and so on, until at least four or five students have had a chance to respond to the **Engage** questions.
4. Wrap up by telling students they will read, think, and write about other problems and how to solve them in the course of this lesson.

ENGAGE ROUTINE 10
Activate Prior Knowledge

AIM: To activate students' prior knowledge and help them develop conceptual schema for the lesson.

TIME: 2-3 minutes

1. Draw students' attention to **Engage** and read aloud the questions.
2. Have students look at the images. **Ask**, e.g. *What do you already know about the different parts of a computer?*
3. Invite students to share their responses with the class, e.g. **You can use the keyboard to type. A mouse helps you move the cursor around to different parts of the screen. The CPU is the main part of the computer. It contains the hard drive and memory.**
4. Follow up student responses. **Say** *We will learn more about different computer parts on the next page.*

LEARN ROUTINE 11
Preview

AIM: To activate students' background schema and encourage them to anticipate the content so they can build context before reading.

TIME: 2-5 minutes

1. **Say** *Previewing an article before you read can help you build context. You will have an idea what the article is about before you even start reading. It's a good habit to get into because it will help you understand and remember what you read.*
2. Read aloud the first sentence. Tell students that the first sentence of a reading passage is called a "topic statement." It gives the main idea of the article and the ideas or information that will be covered.
3. Direct students' attention to the subheads. **Ask** *Subheads also give clues about the ideas and information that will be covered. Based on the subheads you see here, what do you think the article is about?* Listen to student responses and provide feedback that helps them focus on the ideas suggested by the subheads.
4. Tell students to keep their guesses in mind as they read the article. When they finish, ask if their guesses were correct.

OPTIONAL: Write guesses (both correct and incorrect) on the board. Refer to them during the lesson, i.e., *Amal guessed we would learn about growing plants. She was right!*

LEARN ROUTINE 12

K-W-L Chart

AIM: To motivate students to read a long text; enable students to achieve the lesson Objectives.

TIME: 15–20 minutes

BEFORE READING

1. Draw a chart with three columns on the board. Label the columns: K, W, L.
2. **Say** *Copy the chart into your notebook or on a piece of paper.*
3. **Say** *K means: What do you Know about this topic? W means: What do you Want to know about the topic? L means: What have you Learned about the topic? Before we read, we're going to complete columns K and W. After we read, we're going to complete column L.*
4. Have students sit shoulder to shoulder.
5. **Ask** *What do you Know about the topic? Share ideas and note them in column K.*
6. **Ask** *What do you Want to know about the topic? Share ideas and write them in the column W.*

AFTER READING

7. After students have read the text, **ask** *What did you Learn about the topic? Share ideas and write them in column L.*

OPTIONAL: Have the students review column W. **Ask** *What else do you Want to know? If the answer wasn't in the text, where can you find the information?*

8. Point to the relevant lesson Objective(s). **Say** *Now you can … Well done!*

LEARN ROUTINE 13

Taking Notes

AIM: To take notes while reading to self-monitor comprehension.

TIME: 10-12 minutes

1. **Say** *Taking notes while you read is a good way to make sure you are following the text. Look out for big ideas and words you don't understand. Use a pencil to draw a line under the most important words. Or you can circle them. Another way is to use a highlighter. If you don't understand something, look it up in a dictionary. You can also ask me if you need help. Then write the word's meaning in the margin.*
2. Have students read the text and take notes as directed.
3. When they are finished, remind students that taking notes while reading is a good skill to develop, but before doing so they should make sure it is OK to write in the material provided to them.

LEARN ROUTINE 14

Mind-Mapping

AIM: To help students achieve the lesson Objectives by organizing the new information they have learned.

TIME: 15–20 minutes

1. Draw students' attention to **Learn**. Read the heading and the lesson Objectives.
2. Draw a big box in the center of the board and label it.
3. Have students read the information in **Learn**. Pause at useful points in the text and add to the information in the Mind Map on the board. The aim is to visually organize what students learn about the topic.

OPTIONAL: After they finish reading, ask some more questions.

OPTIONAL: **Say** *Now copy the mind map in your notebook or on a piece of paper.*

LEARN ROUTINE 15
Popcorn Reading

AIM: To enable students to read text in a way that maintains interest.

TIME: 15-20 minutes

1. **Say** *We're going to try Popcorn Reading now. I'll ask a student to read aloud. When I say "Popcorn," that student should stop, look around, quickly choose the next person to read and say their name.*
2. **Remind the class** *Remember that you must choose a NEW person; don't choose the person who just read! And stay on your toes, because you could be called any time!*
3. Assign the first person to read aloud. The other students read along silently.
4. Call "Popcorn" when the reader reaches a logical point in the text (e.g., the end of a paragraph or idea). That reader shouts the name of the next person to read.
5. Note: Remind students to read the definitions for tag and credit.

OPTIONAL: Instead of calling out their name, the reader could tap another student on the shoulder.

6. The activity continues this way, in the form of a Round Robin, until you reach the end.

LEARN ROUTINE 16
Buddy Reading

AIM: To enable students to read text in a way that maintains interest; to help students improve their own reading ability.

TIME: 15-20 minutes

1. Form pairs. Students sit with a classmate, preferably with a similar reading ability, shoulder to shoulder.
2. **Say** *You're Reading Buddies. That means you're reading friends, so your job is to help each other. You're going to take turns reading the text to each other. If you're reading, remember you can ask for support from your Reading Buddy, or even ask them to take over for a while. I'll be moving around the classroom if you need me.*
3. Point to the first paragraph of the text. Tell students to take turns reading each paragraph aloud to their partner.
4. While Reading Buddies work together, circulate through the room and provide help with pronunciation and comprehension as necessary.
5. To speed up the lesson, shout *My Turn!* and read a section aloud. Then hand over the next section to the buddies. Continue alternating like this, so that they receive practice listening to you, as well as to each other.

LEARN ROUTINE 17
Asking Questions

AIM: To help students' comprehension of a long text; to practice students' reflection and analytical skills

TIME: 15 minutes

1. Write the following questions on the board: What are the facts of this text? What does the author want me to understand? **Say** We are going to read a text about XX. Have volunteer students read the text aloud (sentence by sentence or paragraph by paragraph) to the class.
2. Then point to the questions on the board and read them aloud. **Say** *Now I want you to read the text again and try to answer these questions. You may take notes on a sheet of paper.*
3. Students read the text again and identify what the facts are and what they think the author's purpose for writing was.
4. Form pairs and have students share their ideas. Ask the questions to the whole class and have volunteers share their answers.

LEARN ROUTINE 18
Directed Draw

AIM: To help students process information they have learned by conducting a directed draw.

TIME: 5-7 minutes

1. Read aloud the text. Encourage students to follow along.
2. Distribute drawing paper and pencils, crayons, or markers. Tell students they will now draw a picture of a computer and some of its components.
3. Guide students in drawing a picture that includes some of the terms shown in the Student Book. **Say** *Draw a laptop or desktop computer. To one side, draw a router. Now draw an ethernet cable connecting the router to the computer.*
4. Encourage students to draw any other details that they want to include in their drawing. For this example, they might draw a CPU, GPU, or HDD, for example. Remind them to show the connections to the computer.
5. Have students label each part of their drawing. Circulate and offer help as necessary.

OPTIONAL: Invite students to share their drawings with the class.

EXPLORE ROUTINE 19
Time for a Discussion!

AIM: To explore ideas and information that were introduced through the reading passage in Learn.

TIME: 7-10 minutes

1. Tell students that the class will discuss these questions as a way of reviewing the material that they just read.
2. Read aloud the questions in **Review** and invite students to respond. Provide feedback as the discussion progresses, helping to clarify meanings from the text as necessary.
3. When the discussion has concluded, ask students to share about one thing from the discussion that they want to remember.

EXPLORE ROUTINE 20
Brainstorm

AIM: To enable students to work quickly, creatively, and collaboratively to generate ideas; lead an activity based on their ideas to meet the objectives.

TIME: 10 minutes

1. Introduce the **Explore** topic. Read the instructions aloud.
2. **Say** *Now we're going to think of lots of ideas, quickly, without stopping!*
3. Have students sit in groups of three.
4. **Say** *One person in the group needs a piece of paper and a pen (or pencil). He or she will write your group's ideas down on the paper.*
5. **Say** *You have 1–2 minutes to write down all the ideas you can think of! Don't stop!*
6. **Say** *Go!* The activity begins. After one or two minutes, **call** *Stop!*
7. Give the students time to read the ideas on their piece of paper.
8. **Ask** *What ideas did you think of? Tell the class an idea that you like.* Lead a group discussion based on their brainstorm ideas.

EXPLORE ROUTINE 21
The 2 to 4 Discussion

AIM: To lead this discussion/activity in a way to meet the objectives while also linking into what they have learned so far.

TIME: 5–10 minutes

1. Introduce the **Explore** topic.
2. **Say** *Sit with a classmate, shoulder to shoulder. Discuss the question(s) together.* Students discuss the questions in pairs.
3. **Say** *Now join another pair and form a group of four. Sit knee to knee and share your ideas.* Students discuss the questions again, this time as a group of four.
4. Go around the classroom and listen to the pairs/groups while they are talking. Give help, if needed. Make sure students are reviewing some previous knowledge.
5. Elicit some answers from the class.

EXPLORE ROUTINE 22
Think, Talk, and Create

AIM: To explore ideas and information that were introduced through the reading passage in Learn.

TIME: 5–7 minutes

- Follow the steps for Routine 22: Think, Talk, and Create.

1. Read aloud the directions. **Say** *Now you will have an opportunity to think and talk about your topics from this lesson, e.g. you will create a spreadsheet showing the information that you gathered for that topic.*
2. Form pairs of students. Have them read and think about the **Learn** text. They can then share their ideas in a short discussion.
3. When they are finished, partners can reconvene and share their work with each other

EXPLORE ROUTINE 23
T-Chart

AIM: To enable students to organize what they have read using a graphic organizer and to compare and contrast ideas.

TIME: 7-10 minutes

1. Draw students' attention to **Explore**. **Say** *In the text, we read about... and now we are going to think about this a little more.* On the board, draw a T-chart with the column headings as follows:

advantages	disadvantages

2. Form groups. Give each group a sheet of paper. **Say** *In your groups, talk about (the advantages of...). Write these in the first column. Then, talk about (the disadvantages of...). Write these in the second column.*
3. Have students discuss and complete their T-charts. Move around and listen to groups as they are talking. Give help, if needed.
4. When students are finished, get feedback from the groups.

OPTIONAL: Students can copy their group's T-chart into their notebooks.

EXPLORE ROUTINE 24
Plan and Share

AIM: To explore ideas and information that were introduced through the reading passage in **Explore**.

TIME: 6–8 minutes

1. Read aloud the text in **Explore**. Distribute writing paper so that students can begin planning for their research project.
2. Have students take notes in response to the prompts in **Explore**. Circulate and provide assistance as necessary.
3. When students are finished, form groups and have students share their notes with the rest of their group. Encourage group members to give each other feedback. **Say** *If there is anything you don't understand, as your group member to explain it again.*

REVIEW ROUTINE 25
Test a Partner

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

1. Draw students' attention to **Review**. Explain that students are going to test each other on what they've learned this lesson.
2. **Say** *Sit with a classmate, knee to knee. Discuss the questions in your book.*
3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well.
4. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

REVIEW ROUTINE 26
Family Test

AIM: To check and consolidate the knowledge students should have learned today.

TIME: to be completed at home

1. Draw students' attention to **Review**.
2. **Say** *You're going to ask a family member to test you on your knowledge.*
3. **Say** *First, you are going to copy some questions on a piece of paper. Later on today, someone in your family will ask you the questions. Tell them everything you know!*
4. Have students copy the review questions to take home so that family members can test them.
5. When students return to class, follow-up by asking them: *Based on what you've learned so far, has your answer to the Engage question changed? How?*

REVIEW ROUTINE 27
Quick Write

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 4–6 minutes

1. Draw students' attention to **Review**. Read aloud the questions.
2. **Say** *You don't need to spend a lot of time thinking about your responses. Just write the first thing that comes into your mind. Ready? Begin!*
3. Give students 4-5 minutes to write their responses.
4. When they are finished, invite students to share their responses with a classmate.

SELF-ASSESS ROUTINE 28
3-2-1

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop; encourage critical thinking.

TIME: to be completed at home

1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
3. Remind students to be honest!
4. **Say** *After you've completed the self-assess, write a short list for me:*
   - *three things you found interesting in this lesson*
   - *two questions you still have for me*
   - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

5. Next lesson, clarify any questions that students still have.

SELF-ASSESS ROUTINE 29
Promise!

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: to be completed at home

1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Tick the correct box at home.*
3. Remind students to be honest!
4. **Say** *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to… .*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g.: *I'm going to…*
take notes during class, ask the teacher when I don't understand, participate in discussions, listen when others speak, etc.

5. Praise students for their efforts.

VIDEO ROUTINE 30
Preview, View, Review

AIM: To enable students to use the videos productively in the lesson.

TIME: 10 minutes

1. **Say** *You are going to watch a video about (name - see lesson plan). What do you remember about him/her from the beginning of this theme?*

OPTIONAL: Allow students to flick back to the Opening pages and refresh their memories.

2. Read aloud the question(s) (see Lesson plan).
3. Have a class discussion about the question(s). Students raise their answers to make predictions about what they will see and how the questions will be answered.

OPTIONAL: Have students complete this step in pairs.

4. Play the video once or twice.
5. Students pair up and discuss the answers to the questions. **Ask** *Were any of your predictions correct? Which ones?*

OPTIONAL: Ask follow-up questions about the video to generate more discussion, e.g.: *What did you find surprising about the video? What did you learn that you didn't know before?*

Extension Activities
For the *Learn By Doing* pages, the Teacher's Guide suggests two extension activities to further connect the lesson information to students' lives and contexts. Usually, one of these activities involves students researching some information online.

Be the Expert
This section, included only in the Teacher's Guide, provides you with further information about the lesson topic to share with students, so they will come to respect the teacher in addition to the textbook as a source of knowledge. This section also includes a teaching tip specific to that lesson, and home-school connection activity to facilitate students' communication with family members about what they are learning and doing.

Assessment
The course uses both summative and formative assessment.

Summative Assessment
Each lesson and the Theme reviews have a self-assess section where students reflect on the lesson objectives and how well they accomplished them. The self-assess helps students to recognize their own progress and to communicate it to family members.

Formative assessment
Assess the students throughout the year. The teacher should observe students' participation in class as well as their written work. The Review pages at the end of each theme are an excellent opportunity to assess student progress and understanding of the theme. The teacher should then make use of this information in planning revision and further discussion of the topic to support the students in areas where they have difficulty.

At the end of the term, there is a project. This feature of the course is designed to practice the skills that students have learned. It should be used by the teacher as a formative assessment task to assess student participation and progress.

The Digital Component
Every lesson in the course is available as a Digital Learning Object (DLO) on the Egyptian Knowledge Bank. Each DLO features a digital version of the book with interactive elements, such as the videos, incorporated. The DLOs are designed to be accessible on any device.

Teaching Tips

Make connections: Students learn best when they recognize the value and importance of what they are learning. Keep pointing out to students ways in which what they are studying connects to their school and their community, and invite them to share connections to their families and their own lives.

Work collaboratively: Many of the activities involve working in pairs or groups. To provide variety, let students work with different partners and groups from time to time. While students are engaged with pair and group work, circulate around the class to answer questions and help out. If you notice common areas of confusion or common questions, go over those with the whole class.

Review regularly: As students progress through the lessons, refer to previous lessons, concepts, and skills. This helps students appreciate that what they learn can be applied to many other topics and situations, not just one lesson.

Be fair: Make sure that you call on students evenly, and not just the ones who most enthusiastically volunteer answers. Keep a notebook or gradebook with the class list where you can put a ✓ next to students' names after they answer a question; in this way you can easily see which students haven't been called on that day. While it may not be possible to call on every student in class every day, you can make sure that over the course of a week, every student has a chance to participate. Encourage hesitant or shy students

Use higher-order thinking skills: Guide students to think critically by having them articulate the reasons behind their opinions. Ask questions such as *Can you explain why you believe that?*, *How can you test whether that is true?*, *Why do you think some people disagree with that?* Help students to see that deep understanding and learning to question and think is often more important than finding a single correct answer.

Appreciate students' work: If your classroom space allows it, display student work and projects around the room to foster students' pride in their achievements.

Keep a record: Encourage students to keep their written work in a notebook or portfolio, so that they can look back at their own progress and achievements and also share them with family members.

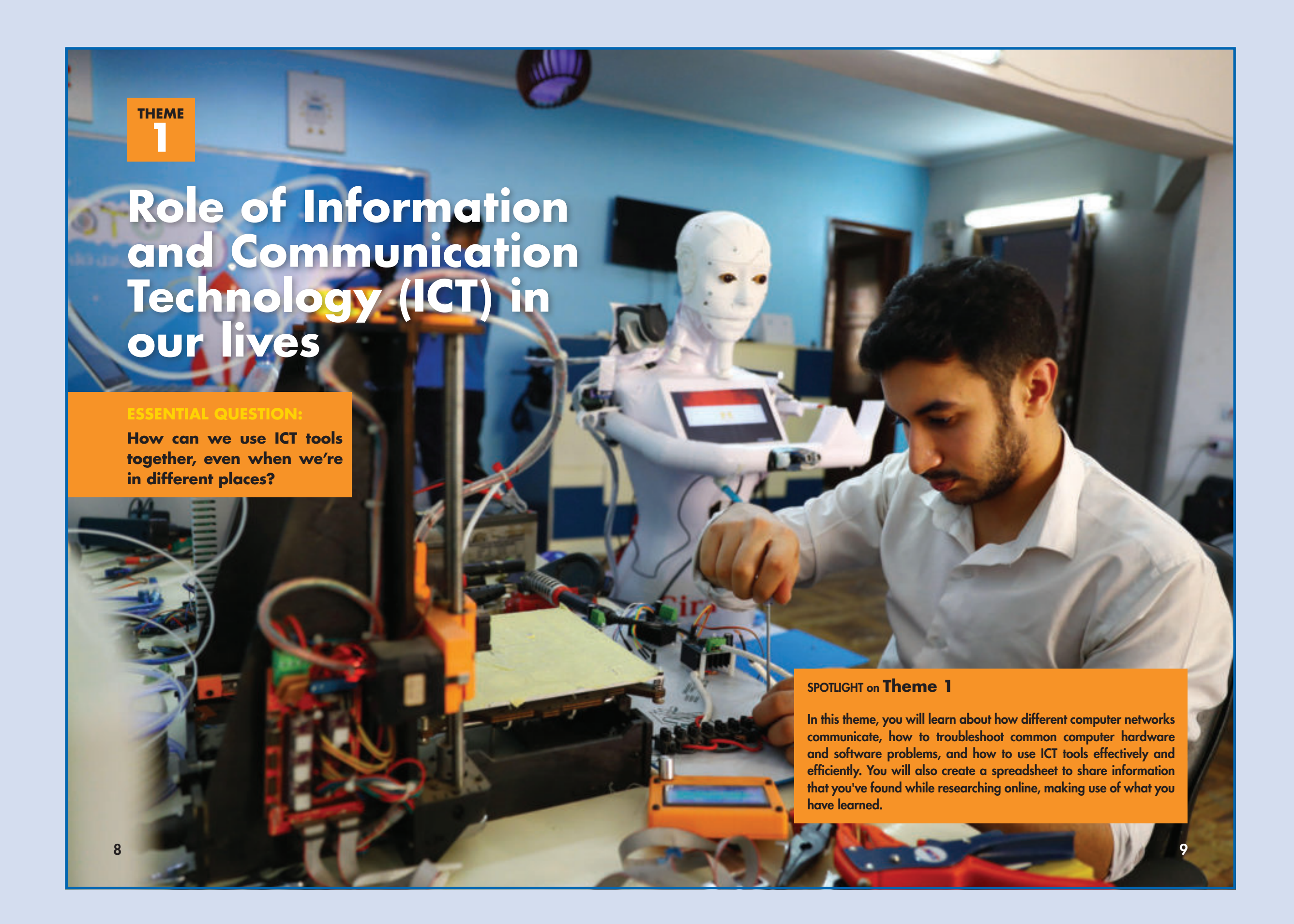
Create a harmonious classroom: Foster an atmosphere of inclusion and respect for diversity by discouraging competition and activities where students "win." Instead, provide opportunities for groups or the whole class to work collaboratively towards a common goal.

Respect diversity: You may have differently abled students or students with additional needs in your class, just as there are people of all abilities in the world of work and in society. Foster a sense of community in your classroom where every student feels valued. To the best of your ability, modify assignments or the classroom set-up to accommodate them without making them feel singled out or "different." For example, a student with poor vision could sit at the front of the class to see the board better, or if you had a hearing-impaired student, you could turn on captioning for the video. In fact, students of all abilities will appreciate opportunities to learn in different ways. Contact the specialist in your school if you need further advice or suggestions for specific situations.

Enjoy the course!

Pacing Guide for Theme 1

Lessons	Activities	Recommended timings	Lessons	Activities	Recommended timings
Theme opener	Theme opener	9–12 minutes	**Lesson 5 and LBD**	5.1 Objectives 5.1 Engage 5.1 Learn 5.1 Explore 5.1 Review 5.1 Self–assess 5.2 Learn by doing	2–3 minutes 3–4 minutes 15–20 minutes 5–10 minutes 4–6 minutes At home 18–25 minutes
Lesson 1 Explorer in Action	1.1 Objectives 1.1 Engage 1.1 Learn 1.1 Video 1.1 Explore 1.1 Review 1.1 Self-assess 1.2 Learn by doing	2–3 minutes 3–4 minutes 15–20 minutes 5–10 minutes 7–10 minutes 4–6 minutes At home Variable	**Lesson 6 and LBD**	6.1 Objectives 6.1 Engage 6.1 Learn 6.1 Explore 6.1 Review 6.1 Self–assess 6.2 Learn by doing	2–3 minutes 2–5 minutes 15–20 minutes 10 minutes 5–10 minutes At home 15–22 minutes
Lesson 2 and LBD	2.1 Objectives 2.1 Engage 2.1 Learn 2.1 Explore 2.1 Review 2.1 Self-assess 2.2 Learn by doing	2–3 minutes 2–3 minutes 5–7 minutes 5–7 minutes 5–10 minutes At home 21–30 minutes	**Lesson 7 and LBD**	7.1 Objectives 7.1 Engage 7.1 Learn 7.1 Explore 7.1 Review 7.1 Self–assess 7.2 Learn by doing	2–3 minutes 2–3 minutes 15-20 minutes 6–8 minutes At home At home Variable
Lesson 3 and LBD	3.1 Objectives 3.1 Engage 3.1 Learn 3.1 Explore 3.1 Review 3.1 Self-assess 3.2 Learn by doing	4–6 minutes 2–5 minutes 10–12 minutes 5–7 minutes At home At home 24–32 minutes	**Lesson 8 and LBD**	8.1 Objectives 8.1 Engage 8.1 Learn 8.1 Explore 8.1 Review 8.1 Self–assess 8.2 Learn by doing	4–6 minutes 2–5 minutes 15–20 minutes 5–7 minutes 5–10 minutes At home Variable
Lesson 4 and LBD	4.1 Objectives 4.1 Engage 4.1 Learn 4.1 Explore 4.1 Review 4.1 Self-assess 4.2 Learn by doing	2–3 minutes 2–5 minutes 2–5 minutes 7–10 minutes 4–6 minutes At home 24–36 minutes	**Review**	R.1 Vocabulary R.1 Review Questions R.1 Critical Thinking R.1 Essential Question R.1 Activity	5–7 minutes 5–7 minutes 5–7 minutes 7–10 minutes Variable



THEME 1 pp. 8–9

The role of Information Communication Technology (ICT) in our lives

ESSENTIAL QUESTION

How can we use ICT tools together, even when we're in different places?

AIM: To introduce the topic of the theme, which explores issues related to computer hardware, computer networks, spreadsheets, internet searches, and how to troubleshoot problems.

TIME: 5–7 minutes

Read the Essential Question with the class. Explain that ICT refers to Information and Communication Technology. Ask students how people can use ICT and work together even when they are in different places. Confirm that people from all around the world can communicate with each other through computer networks such as the internet. Tell them they will learn more about the internet and other networks in the course of this unit.

Spotlight on Theme 1

AIM: To activate prior knowledge and build context related to ICT.

TIME: 4–5 minutes

Look at the photo with the class. Tell students that the man in the photo, Mahmoud el-Komy, is a mechatronic engineer from the city of Tanta, and he works in the robotics field. Explain that archaeologists explore the past by studying artifacts – objects that were lost or abandoned by people many hundreds or even thousands of years ago.

Ask students how they think new technology can help archaeologists study the past.

Then ask students to work in pairs to read the Spotlight text so they can learn more about the topic of the theme. Invite volunteers to share what they learn.

LESSON 1 pp. 10–11

EXPLORER IN ACTION

OBJECTIVES

- Give examples of how to share information.
- Determine ways to record information.
- Communicate and exchange information with my colleagues through one of the educational platforms.

LIFE SKILLS

- Learning to do: decision-making

VALUES

- Academic values: appreciation of technology

ISSUES AND CHALLENGES

- Globalization issues: technological awareness

MATERIALS NEEDED

- Ball or small bean bag
- Art supplies: drawing paper; crayons, markers, or colored pencils
- Classroom computers

LESSON 1 EXPLORER IN ACTION

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Give examples of how to share information.	☐ Very well	☐ OK	☐ Need more work
• Determine ways to record information.	☐ Very well	☐ OK	☐ Need more work
• Communicate and exchange information with my colleagues through one of the educational platforms.	☐ Very well	☐ OK	☐ Need more work

Engage

What ICT tools do you use regularly? How do they help you achieve your different tasks?

Learn

Fred Hiebert is an archaeologist and explorer. He is also the Explorer in Residence for the National Geographic Society. As an archaeologist, he studies the past by excavating, observing, and writing about objects and sites.

In his daily work, Mr. Hiebert uses the Word processor program (Word) to write reports, and the Excel spreadsheet program to prepare and show graphs. When he needs to present the results of his research to his team, he uses the PowerPoint presentation program. He ensures that the slides are easy to read and make the information clear. When he wants to communicate more formally, he uses printed letters and e-mails, or he hands over documents in person.

As part of his role, Mr. Hiebert is also a mentor who guides his students and colleagues around the world. Mentoring is advising or training someone on a subject you have a lot of experience in. Have you ever mentored others? It is a great way to pass on knowledge and skills. Mentors share their experience, including problems that may arise and how to deal with them. This helps others advance faster.



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OBJECTIVES

AIM: To engage students' interest in the lesson objectives and content.

TIME: 2–3 minutes

- Follow the steps for **Routine 1: Time to Explore!**
  1. Draw students' attention to the Lesson topic. Say *This lesson we're going to learn about ways of sharing information.*
  2. Read the objectives aloud to the class.
  3. Write on the board *Now's our chance to explore ...* . To ensure that students think in detail about the objectives, write more actions directly below *explore*, e.g: *think about, learn about, study, discuss, look at, investigate, consider, plan*.
  4. Give students a minute to look at the lesson and assess what they'll explore.
  5. Elicit answers from individual students, e.g.: ***Now's our chance to ... learn about Microsoft Word and PowerPoint!***

ENGAGE

AIM: To activate interest in the lesson content through a game-like discussion.

TIME: 3–4 minutes

- Follow the steps for **Routine 9: Around the World**.
  1. Read aloud the question in Engage. Model an answer, using an example from your own personal experience: *I communicate with other teachers a lot so that we can share ideas on how to create lessons. Sometimes we use email, and Zoom or some other video-conferencing tool.*
  2. Designate the next person to share by throwing a ball or bean bag to a student. Have them respond to the Engage questions by talking about ICT tools that they use.
  3. When the student is finished, have them throw the ball to the next student, and so on, until at least four or five students have had a chance to respond to the Engage questions.
  4. Wrap up by telling students they will read, think, and write about other ways of sharing information in the course of this lesson.

LEARN

AIM: To motivate students to read a long text; enable students to achieve the lesson Objectives.

TIME: 15–20 minutes

- Follow the steps for **Routine 12: K-W-L Chart**.

Before reading

1. Draw a chart with three columns on the board. Label the columns: K, W, L.
2. Say *Copy the chart into your notebook or on a piece of paper.*
3. **Say** *K means: What do you Know about this topic? W means: What do you Want to know about the topic? L means: What have you Learned about the topic? Before we read, we're going to complete columns K and W. After we read, we're going to complete column L.*
4. Have students sit shoulder to shoulder.
5. **Say** *The article is about an archaeologist and explorer named Fred Hiebert. Like other scientists, he has to share information on a daily basis. What do you know about ICT tools that help us to share information? Share ideas and note them in column K.*
6. **Ask** *What do you want to know about ICT tools? Share ideas and write them in column W.*

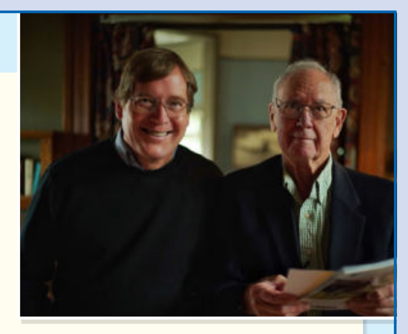
After reading

7. After students have read the text, ask *What did you learn about the ICT tools as a way of sharing information? Share ideas and write them in column L.*

OPTIONAL: Have the students review column W. Ask *What else do you want to know? If the answer wasn't in the text, where can you find the information?*

8. Point to the relevant lesson objective(s). **Say** *Now you can give examples of how to share information! Well done!*

<table>
<tr><th colspan="7">Teaching support for an integrated classroom</th></tr>
<tr><th>Intellectual disability and slow learning</th><th>Autism</th><th>Hearing impairment</th><th>Attention deficit hyperactivity disorder</th><th>Learning disability</th><th>Motor disability and cerebral palsy</th><th>Blind and weak sighted</th></tr>
<tr><td colspan="5">- Draw a mind map using programs used by Fred Hiebert (Word, Excel, PowerPoint, Email. In addition, determine how each program is used, and highlight them in boxes.)
- Display the logos of platforms such as Whatsapp, Zoom, and Youtube, either on the board or on pre-made cards.
- Write all the vocabulary in the lesson and their definitions on the board with different colors, inside boxes and circles, to give students enough time to acquire them during the lesson.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td>Read each column to the blind, and encourage the weak sighted to come up to the board, and copy the K-W-L chart in their notebooks.</td></tr>
</table>



Mr. Hiebert generally prefers to communicate with people through face-to-face, in-person meetings. At times, this is not possible because he is away on an expedition, or the people he is meeting with are in different countries. In such cases, Mr. Hiebert holds virtual meetings using platforms like Zoom and WhatsApp. These meetings have to be scheduled at a time that is suitable for everyone, which can be difficult due to time difference between countries. Mr. Hiebert believes it is important to follow up a virtual meeting or telephone call with official notes documented in an email or sent as a Word document. This ensures that everyone involved has the same information and a copy to keep.

Sharing information has become vital in our day-to-day lives. Technology has helped to make this an easier task. Moreover, the Ministry of Education makes sure that students have a record of what they should have learned in the classroom via the satellite broadcasting channels (educational channels) affiliated by the Ministry of Education and YouTube channel, "Madrasitna". On the YouTube channel, there are videos on each school subject. This provides a second opportunity for students who missed a lesson, need further explanation of a lesson, or would just like a quick review. "Madrasitna" is an opportunity for students to watch lessons whenever they choose.

Watch the video about Fred Hiebert and his work. What does he do to mentor others? What are the key skills to mentoring others? What ICT tools help him mentor?

Explore
Sometimes technology can be challenging and scheduling calls can be difficult. That is why Mr. Hiebert always has to consider many factors, such as the time difference between countries. In your opinion, what other challenges are there when making online virtual calls? How can you overcome those challenges?

Review
1. List the ways you use ICT tools. What ways might you use them in the future?
2. Why is it important to share information in today's world?

Self-assess
Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Madrasitna, or "Our School," is an educational channel for students based in Egypt. Its library of educational videos, which cover a wide array of topics and subject areas, are on YouTube. Many of the lessons are presented in a bilingual format to reinforce the acquisition of content and academic vocabulary in English at the same time.

TEACHING TIP

Explain to students that archaeologists such as Fred Hiebert analyze artifacts in order to learn how people lived in the past. Then, tell them that they will role play what it is like to be an archaeologist themselves. Say *Most archaeologists dig into the earth to find objects that have been buried by time. But we will use the internet to find our artifacts.* Have students find an artifact from ancient Egypt by searching for images that they can print out or draw by hand. Then have them look up information related to the object and add the information to their drawing in the form of a caption. Encourage them to include the name of the artifact, when and where it came from, and a note about its purpose or use. Then invite the "archaeologists" to present their findings to the class.

HOME–SCHOOL CONNECTION

Academic values: Appreciation of science and scholars

Send a note home with students asking if family members would be willing to allow students to share about an "artifact" from home. The artifact might be a photo that shows family members from a previous generation, or it could be a family heirloom. Families may not want to have such items brought to school, but students could photograph the artifact and then present the photo to the class in a "show and tell" about their family's history.

VIDEO

AIM: To learn more about Mr. Hiebert's work as an archaeologist and explorer.

TIME: 5–10 minutes

- Follow the steps for **Routine 30: Preview, View, Review**.
  1. Say *You are going to watch a video about Fred Hiebert. What do you know about him so far?*
  2. Before viewing the video, ask students to be on the lookout for examples of how Mr. Hiebert mentors others.
  3. Play the video once or twice.
  4. After viewing, ask students to summarize the video and to give one or two examples of how Mr. Hiebert uses ICT tools to mentor others.

EXPLORE

AIM: Explore ideas and information that were introduced through the reading passage in Learn.

TIME: 7–10 minutes

- Follow the steps for **Routine 19: Time for a Discussion!**
  1. Tell students that the class will discuss these questions as a way of reviewing the material that they just read.
  2. Read aloud the questions in Explore and invite students to respond. Provide feedback as the discussion progresses, helping to clarify meanings from the text as necessary.
  3. When the discussion has concluded, ask students to share about one thing from the discussion that they want to remember.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 4–6 minutes

- Follow the steps for **Routine 27: Quick Write**.
  1. Draw students' attention to Review. Read aloud the questions.
  2. **Say** *You don't need to spend a lot of time thinking about your responses. Just write the first thing that comes into your mind. Ready? Begin!*
  3. Give students four or five minutes to write their responses.
  4. When they have finished, invite students to share their responses with a classmate.

SELF-ASSESS

AIM: Help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 29: Promise!**
  1. Draw students' attention to **Self-assess**. Read the first instruction aloud and point to the **I can...** boxes in **Objectives**.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Tick the correct box at home.*
  3. Remind students to be honest!
  4. *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to... .*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g.: *I'm going to... take notes during class, ask the teacher when I don't understand, participate in discussions, listen when others speak, etc.*

  5. Praise students for their efforts.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
- Having students "buddy up" with classmates who can help to explain and summarize the article and video. - Inviting students to express understanding of key concepts in a variety of ways (in writing, by drawing, in their own words).					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	- When watching the video, inviting students to move closer to the screen. - Allowing students to "take notes" using an audio recorder.



THINK AND ANSWER ABOUT ME

AIM: To help students reflect on and summarize the information that they have learned so far.

TIME: 5–7 minutes

1. Read aloud the first question and invite volunteers to share what they have learned so far. If necessary, provide an example: **I have learned that archaeologists and other scientists use ICT tools to exchange information with each other.**
2. Tell students to work independently in providing written responses to the remaining items in the space provided. If you have a wide variety of proficiency levels represented in your classroom, you may want to pair beginners with more advanced students so that they can work collaboratively.
3. When students are finished, reconvene the class and go through the remaining items together. You might want to share sample answers for each item and then invite volunteers to share their answers as well. Provide feedback as appropriate. (Sample answers: **2. It is important for scientists to share information because that is how the scientific community expands its knowledge base. 3. Scientists can record their information in spread-sheets. 4. They can share that information with other scientists by entering that information into a database.**)

RESEARCH

AIM: To learn more about the resources available through Madrasitna and practice summarizing the results of research.

TIME: 10–15 minutes

1. Have students complete this activity in pairs. First, read the directions aloud and provide access to classroom computers so that students can self-select a video of interest through the Madrasitna satellite or on YouTube.
2. Have students record what they have learned by taking notes in the space provided.
3. When students have finished, shuffle pairings so that students can share what they have learned with other classmates.

Learn by doing **LESSON 1** **EXPLORER IN ACTION**

1 Think and answer about me

1. What information you learned today would be useful for others?

____

2. Why is it important?

____

3. Where can you record that information?

____

4. How would you share that information?

____

2 Research

Watch a video on the "Madrasitna" satellite or YouTube channel. Then answer the questions.

1. What new information have you learned?

____

2. How will you record this new information?

____

3. What information might be useful for others?

____

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COMPREHENSION

AIM: To apply what students have learned to real-world situations.

TIME: 3–5 minutes

1. Read the paragraph aloud and then read aloud the two questions. Give students an opportunity to ask questions if they need clarification.
2. Have students work independently in providing written responses to the questions. If students need help writing down their ideas, circulate and provide assistance as necessary.
3. When students have finished, invite volunteers to share their responses with the class. Use their responses as a starting point to lead a discussion about the ways in which video conferences help facilitate communication between mentors, teachers, and students. (Sample answers: **1. Video conferences make it possible for people who live in completely different parts of the world to meet and share information; 2. People can share information**

3 Comprehension

Read, think and answer

Virtual meetings, or video conferencing, provide an effective method to mentor others. During video conferencing, people can see and hear one another. They can also share information found on their screens and even send and receive documents. Virtual meetings became very popular in 2020. Since then, more and more people have used them worldwide.

1. In your opinion, how has video conferencing made it easier for people to mentor others?

2. How do virtual meetings help people communicate and share knowledge?

4 Creative planning

Make a plan to mentor someone you would like to train on a topic that you know a lot about.

1. Who will you choose?

2. What information will you share with them?

3. Which virtual meeting platform will you use?

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at a virtual meeting by giving a summary to other participants. They can even do a PowerPoint presentation or share documents with other attendees.)

CREATIVE PLANNING

AIM: To plan a mentorship with a friend, classmate, or family member.

TIME: Variable

1. Tell students that they are going to make a plan for mentoring a friend, classmate, or family member. To practice using ICT tools and technology, their meetings will be held through a video-conferencing platform such as Zoom. Students therefore have to decide who they would like to mentor, what information they will share, and which virtual platform they will use for their meeting.
2. Give students time to think about a project or personal interest that they would like to share with a mentee (the student of a mentor). Say *The project will be more interesting and fun if it's something that you already know a lot about. That's the whole point of a mentor–mentee relationship. The mentor shares what they know with the mentee and in many cases teaches the mentee how to acquire new skills.*
3. Have students form plans for their mentorship by taking notes in the space provided. Circulate and provide assistance as necessary.
4. Tell students to keep their notes. Use one or both of the following Extension Activities as a way of having them carry out their mentoring plan.

EXTENSION ACTIVITIES

1. Help students carry out their mentoring plan by providing necessary assistance and guidance. You might coordinate mentor–mentee pairings in the classroom, for example, or you could coordinate with a fellow teacher so that students can pair up with students from another classroom. Meet with each student beforehand and ask them to summarize the information that they intend to share. Provide feedback as appropriate, helping students to be concise and to stay on topic. Then facilitate the virtual meetings by allowing students to use classroom computers or, if necessary, computers in the school's resource center.
2. After all the students have held their virtual meetings, hold a "debriefing" in the classroom by inviting students to share about their experiences as mentors. **Ask** *What worked well? What do you think you might do differently next time?*

LESSON 2 pp. 14–15

Computer accessories

OBJECTIVES

- Describe basic computer/accessories concepts.
- Describe common computer problems.
- Explain how to solve some common computer problems

LIFE SKILLS

- Learning to do: decision-making
- Learning to know: problem-solving

VALUES

- Academic values: perseverance

ISSUES AND CHALLENGES

- Globalization issues: technological awareness

MATERIALS NEEDED

- Drawing paper; crayons, colored pencils, or markers (Learn)

LESSON 2 Computer accessories

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Describe basic computer/accessories concepts.	☐ Very well	☐ OK	☐ Need more work
• Describe common computer problems.	☐ Very well	☐ OK	☐ Need more work
• Explain how to solve some common computer problems.	☐ Very well	☐ OK	☐ Need more work

Engage

What can a computer do? How does the hardware enable it to do these things?

Learn

Like Mr. Hiebert, you can use ICT tools to share ideas. However, your computer's hardware must be working properly. Read about the main computer hardware components and then potential problems/solutions on page 15.

ethernet cable: a cable that connects a computer or laptop to a router

Flash Memory

External Hard Drive: Like an HDD but much faster

HDMI (high-definition multimedia interface): a cable that transmits audio and video from/to devices

router: a device that connects a computer to the internet via Wi-Fi or ethernet

ethernet port: connects an ethernet cable; ethernet is more stable and faster than Wi-Fi

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OBJECTIVES

AIM: To encourage students to take responsibility for their own learning.

TIME: 2–3 minutes

- Follow the steps for **Routine 2: What Do I Need to Do?**
  1. Draw students' attention to the Lesson topic. Say *This lesson we're going to learn about computer accessories, problems, and solutions.*
  2. Read the objectives aloud to the class.

OPTIONAL: Ask *Which objectives can you already do?* Elicit some ideas.

  3. Ask *What kind of things will we need to pay attention to during the theme?*
  4. Elicit ideas from the students, e.g., **I need to pay attention to the names of computer parts.**
  5. Write students' ideas on the board and remind students to pay attention to them during the lesson.

ENGAGE

AIM: To activate students' prior knowledge and help them develop conceptual schema for the lesson.

TIME: 2–3 minutes

- Follow the steps for **Routine 10: Activate Prior Knowledge**.
  1. Draw students' attention to Engage and read aloud the questions.
  2. Have students look at the images. Ask *What do you already know about the different parts of a computer?*
  3. Invite students to share their responses with the class. Possible answers include: **You can use the keyboard to type. A mouse helps you move the cursors around to different parts of the screen. The CPU is the main part of the computer. It contains the hard drive and memory.**
  4. Say *We will learn more about different computer parts in the next section.*

LEARN

AIM: To help students process information they have learned by conducting a directed draw.

TIME: 5–7 minutes

- Follow the steps for **Routine 18: Directed Draw**.
  1. Read aloud the text. Encourage students to follow along.
  2. Distribute drawing paper and crayons, colored pencils, or markers. Tell students they will now draw a picture of a computer and some of its components.
  3. Guide students in drawing a picture that includes some of the terms shown in the Student's Book: *Draw a laptop or desktop computer. To one side, draw a router. Now draw an ethernet cable connecting the router to the computer.*
  4. Encourage students to draw any other details that they want to include in their drawing. They might draw a CPU, GPU, or HDD, for example. Remind them to show the connections to the computer.
  5. Have students label each part of their drawing. Circulate and offer help as necessary.

OPTIONAL: Invite students to share their drawings with the class. Have them tell about things that can go wrong with each part of the computer and possible solutions.

<table>
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<tr><td colspan="5">- Help students draw a computer and its accessories, or help those who can't draw to design a worksheet on which they glue photos of computer accessories and write their names above each of them.
- Use real computer accessories if possible, or display clearer photos of them.
- Write the names of accessories on the board, or circle them in the student's book for students to acquire them during the lesson.
- Use visual flow charts based on order and sequence in showing measurement units.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler: they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td>Help students learn about computer accessories through real objects, meaning through a computer.</td></tr>
</table>

Units of measurement:

bit: the smallest unit of data

byte: 1 byte = 8 bits = 1 character; the word 'cat' has three letters and would need three bytes.

Kilobytes: 1,024 (B)

Gigabyte (Gb): 1,024 (MB)

Megabyte (Mb): 1,024 (KB)

Terabyte: 1,024 (GB)

Mbps: megabits per second; measures the speed of a network or internet connection (the faster the speed, the better)

GHz (GigaHertz): measures the number of cycles your CPU carries out per second; the higher the number, the faster the speed.

Potential computer problems and solutions

Problem: Trouble processing large files, like a big PowerPoint presentation
Potential reason and solution:
Not enough graphics storage – shut down some programs

Problem: A poor video-conference connection
Potential reason and solution:
Slow wireless internet connection – try an ethernet connection

Problem: Not able to store files
Potential reason and solution:
Not enough space – move old files to an external drive

Problem: Home internet connection not working
Potential reason and solution:
connection interrupted – use ethernet or contact ISP

Explore
Work with a partner. Think about a common computer problem. Write it down. Your partner will then ask you questions to guess the problem. With your partner, come up with possible solutions.

Review
1. Your computer is not running properly. What steps would you take to identify the problem? What steps would you take to solve the problem?
2. Someone needs help with computer problems. Give advice.

Self-assess
Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Computer systems vary widely from one school to the next. With updates and changes to hardware, it can often be challenging for teachers to keep up with the functions of all the different parts of the system and how to troubleshoot them. If you feel that you need help in optimizing your usage, consider one of the following:

- Ask a computer specialist at your school to give you a tutorial on how the system works.
- Consult with colleagues who have expertise in internet communication technology.
- Go to a website that offers tutorials on the systems that you use at your school. YouTube, for example, has a wide variety of tutorials. You can also do a search on Google for any specific questions you might have. For a good overview, visit https://edu.gcfglobal.org/en/computerbasics/basic-troubleshooting-techniques/1/

TEACHING TIP

Review key terms and concepts with the class by playing a guessing game. Say *I'm thinking of something that connects a computer or laptop to a router* (ethernet cable). Or *My computer is having trouble processing large files. What should I do?* (Try closing down some programs and then restart.) Invite volunteers to switch roles with you so that they can take turns presenting questions to the class.

HOME–SCHOOL CONNECTION

Life skill: Academic values: appreciation of technology

Have students share what they have learned with family members. Encourage them to use the drawings they created in class to tell their families about computer parts, problems that can come up with each part, and possible solutions.

EXPLORE

AIM: To explore ideas and information that were introduced through the reading passage in **Learn**.

TIME: 5–7 minutes

1. Read aloud the directions and then form pairs of students so that they can work together.
2. Distribute writing paper and pencils. Have one student write down a computer problem. When they are finished, their partner will ask them questions to guess the problem. When they have guessed the problem, they can both brainstorm a solution.
3. Have students switch roles so that each one has at least one turn posing a problem to the other.
4. Invite pairs to share about their problems and solutions with the class.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

- Follow the steps for **Routine 25: Test a Partner**.
    1. Draw students' attention to Review. Explain that students are going to test each other on what they've learned this lesson.
    2. **Say** *Sit with a classmate, knee to knee. Discuss the questions in your book.*
    3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well.
    4. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

SELF-ASSESS

AIM: Help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 28: 3-2-1**.
    1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the **I can…** boxes in **Objectives**.
    2. **Say** *Think about how well you can do each objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
    3. Remind students to be honest!
    4. **Say** *After you've completed the self-assess, write a short list for me:*
        - *three things you found interesting in this lesson*
        - *two questions you still have for me*
        - *one thing you felt proud about, maybe something you did well.*

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Writing concepts and essential vocabulary on the board in different colors. - Inviting students to express understanding of key concepts in a variety of ways (in writing, by drawing, in their own words).					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	It is best to learn about computer accessories through a real computer, using photos as an alternative should only be in case accessories are not available.

Learn by doing LESSON 2 pp. 16–17

COMPREHENSION

AIM: To help students review key terms and concepts presented during the lesson.

TIME: 5–7 minutes

1 Read and write

1. Direct students' attention to the chart. Read aloud each scenario and make sure that students understand the description of each problem.
2. Form pairs of students. Have partners work together in completing the chart.
3. When students are finished, call on pairs to share their solutions with the class.
4. Give feedback as necessary. Create a list on the board showing what the class has determined is the best solution for each problem. (Suggested answers: **1. You should quit any programs or applications that you aren't using. 2. Get an HDD or an SDD. 3. You might need to get a bigger GPU. 4. Try getting a hard drive with more RAM.**)

AIM: To compare and contrast different computer components.

TIME: 5–6 minutes

2 Read, choose, and answer

1. Read the directions aloud.
2. Form pairs of students. Have them work together in choosing the best option and then giving a written explanation for their choice in the space provided.
3. Reconvene and call on pairs to share their ideas with the class.
4. Give feedback as necessary. Take notes on the board so that students can check their answers. (Suggested answer: **An ethernet cable is more reliable than a wireless connection.**)



Computer accessories

Comprehension

1 Read and write

Read the scenarios. Suggest solutions.

You need to download multiple large files from the internet.	
You want your computer to hold more data.	
You want to play an online video game with lots of animation.	
You want to use multiple apps at once.	

2 Read, choose, and answer

Which computer accessory would best ensure you have a good connection during a video conference? Explain why you chose it.

Critical Thinking

3 Think and write

Explain why it's so important for your computer's CPU to run properly. How does a slow or poorly running CPU affect a computer?

____

____

____

____

____

4 Think and discuss

Work with a partner. Take turns in suggesting and solving possible computer problems. One person describes a problem, and the other gives advice about how to resolve it. Then switch roles. Afterward, write notes showing the problems and solutions you discussed.

Problem: ______________________________________

Solution: ______________________________________

Problem: ______________________________________

Solution: ______________________________________

ICT and Me

5 Think and answer

What computer accessory problems have you encountered at home or at school? Were you able to resolve them? How? If not, do you think you could if faced with the same problem now?

____

____

____

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CRITICAL THINKING

AIM: To help students restate key concepts in their own words.

TIME: 3–5 minutes

3 Think and write

1. Read the directions aloud. Remind students that CPU stands for "central processing unit."
2. Give students a few minutes to write their responses in the space provided.
3. When students are finished, invite several volunteers to share their ideas with the class. (Suggested answer: **It's important that your CPU is running properly because it's like the brain of the computer. It processes all of the data, so if it's not running properly you will have all sorts of problems.**)

AIM: To think about and discuss different computer problems and solutions.

TIME: 4–6 minutes

4 Think and discuss

1. Read aloud the directions. Tell students they will take turns writing about computer problems and solutions with a partner.
2. Form pairs of students. Have partners work together in writing about computer problems and solutions in the space provided.
3. When they have finished, shuffle students so that they are paired with a different student. Invite them to share their notes with each other.

ICT AND ME

AIM: To have students reflect on their own experiences in dealing with computer problems.

TIME: 4–6 minutes

5 Think and answer

1. Read aloud the questions. Give students a moment to think about computer accessory problems they have dealt with in the past.
2. Have students work independently in writing about their experiences in the space provided.
3. When they have finished, have students form small groups so that they can share their ideas with other group members. Circulate as groups discuss and provide positive feedback.

EXTENSION ACTIVITIES

1. Have students take turns giving the class a tutorial about the computer systems in your classroom. (Alternatively, you can take the class to the library or computer resource center at your school.) Encourage the "specialist" to name the different components, describe what can go wrong with them, and to offer possible solutions.
2. Have students role play an interaction between a customer and a clerk at a computer store. Tell them to practice a dialogue in which the customer comes into the store and describes a problem with their home computer. The clerk can ask questions to help troubleshoot the problem. If necessary, the clerk might recommend that the customer bring the computer into the shop. When they are ready, have partners present their role-play to the class.

LESSON 3 pp. 18–19

Networks

OBJECTIVES

- Explain what a network is.
- Describe different types of networks.
- Explain how far communication via computers and communication devices has advanced from the 1980s to today.

LIFE SKILLS

- Learning to know: critical thinking
- Learning to live together: communication

VALUES

- Academic values: curiosity; appreciation of science and scholars

ISSUES AND CHALLENGES

- Globalization issues: technological awareness

MATERIALS NEEDED

- Drawing paper, pencils (Explore)

LESSON 3 Networks

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain what a network is.	☐ Very well	☐ OK	☐ Need more work
• Describe different types of networks.	☐ Very well	☐ OK	☐ Need more work
• Explain how far communication via computers and communication devices has advanced from the 1980s to today.	☐ Very well	☐ OK	☐ Need more work

Engage

What does the word **network** mean to you? How many networks, digital or otherwise, do you think you have or you have dealt with?

Learn

Networks are groups of people, or things, that are connected to each other for a common purpose. Think about your family, from your parents to your cousins. It can be thought of as a family network. Together, you form links that create it. You bond and communicate with each other, sharing support and experiences.

Similarly, computer networks connect computers with each other, to share important information and data.

You may have your own personal computer network at home. If you have a computer connected to another computer or device such as a printer or router, then you have your own personal Local Area Network (LAN).

The internet is a network that connects computers, and the people using them, from all around the world. To connect your computer to the internet, you need a gateway, such as a router, which connects your computer to an ISP (Internet Service Provider), such as the internet service provided by Egyptian companies to citizens.



gateway a means of access to something

18

OBJECTIVES

AIM: To help students exchange information they already know in connection with the objectives.

TIME: 4–6 minutes

- Follow the steps for **Routine 4: Information, Please!**

1. Tell students that they will be paired up with a classmate, and that they will then share what they know about the objectives.
2. Form pairs of students, then read aloud the objectives. Ask partners to take turns sharing what they already know about the intranets and the internet. Ask *How are intranets similar to the internet? How are they different?*
3. Give partners a few minutes to share their ideas with each other.
4. Tell students that time is up. Invite partners to summarize what they talked about. Use their comments to lead a class discussion about communication and computer networks.

ENGAGE

AIM: To engage students in a discussion that leads to a lesson objective or life skill; use critical thinking to investigate clues in photos.

TIME: 2–5 minutes

- Follow the steps for **Routine 4: Think–Pair–Share**

1. Draw students' attention to Engage.
2. **Say** I'm going to ask you a question. Don't say anything! Just think about it quietly.
3. Read aloud the question. Let students think silently about some possible answers. They may make simple notes if they wish.
4. After a minute, **say** *Now sit shoulder to shoulder with a classmate and share ideas. You can make notes, but keep them very short.*
5. Check that the students are comparing their ideas with a classmate.
6. **Say** *I'm going to ask the question again. This time, put up your hand to answer.* Read the question aloud again. Call on students with their hands up and have them share.
7. Then have a class discussion and ask students to share their ideas.

LEARN

AIM: To take notes while reading to self-monitor comprehension.

TIME: 10–12 minutes

- Follow the steps for **Routine 13: Taking Notes**.

1. **Say** *Taking notes while you read is a good way to make sure you are following the text. Look out for big ideas and words you don't understand. Use a pencil to draw a line under the most important words. Or you can circle them. Another way is to use a highlighter. If you don't understand something, look it up in a dictionary. You can also ask me if you need help. Then write the word's meaning in the margin.*
2. Have students read the text and take notes as directed.
3. When they are finished, remind students that taking notes while reading is a good skill to develop, but before doing so, they should make sure it is OK to write in the material provided to them.

<table>
<tr><th colspan="7">Teaching support for an integrated classroom</th></tr>
<tr><th>Intellectual disability and slow learning</th><th>Autism</th><th>Hearing impairment</th><th>Attention deficit hyperactivity disorder</th><th>Learning disability</th><th>Motor disability and cerebral palsy</th><th>Blind and weak sighted</th></tr>
<tr><td colspan="5">- Each student should take into consideration the time he needs to read to integrated students within his group, for them to be able to follow him and understand the content he's reading.
- Write all the new vocabulary found in the lesson on the board (Router, World Wide Web, Closed computer network, Cables) and highlight them in the Student's book.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td>Prepare models as a learning tool to explain the concept of networks.</td></tr>
</table>

The World Wide Web (WWW) is part of the internet network, made up of web pages that people can navigate. The Egyptian Knowledge Bank is on the WWW, available for free to all Egyptians who register on the site.

Another type of network is an intranet. An intranet, unlike the internet, is private, restricted to only those that are part of the business, school, or organization that it is connecting.

A school's computer lab could have its own closed computer network. Some networks described above are open and accessible to all. A closed network, such as one in a computer lab, may only have computers linked by cables to allow for file sharing.



cable a long connector that transmits data or power between devices; example: ethernet cable

Review

1. Discuss different kinds of networks and their shared characteristics.
2. Talk about a computer network you have at home or at school.

Explore

Work with a partner. Think about different sports at school. Together, choose one and think about how it can be considered its own network. Make a poster to illustrate and label how it works as a network. Share your poster with the class.

Self-assess

Go to the Objectives at the beginning of the lesson. Check the correct I can . . . box.

19

BE THE EXPERT

A computer network is made up of computers in different locations, all of which can share information through network nodes, i.e., servers, routers, and hosts. The first network was built for the U.S. military in the late 1950s, and by the late 1970s, networks were being installed in a wide variety of settings, including educational institutions and corporations. Networks are typically classified according to their transmission medium (cables, fibers, etc.), bandwidth, and size. The internet, or World Wide Web, is a vast network that connects computers from all over the world. Today, there are at least five billion internet users globally, which is well over half of the world's population.

TEACHING TIP

Have the class help you draw a diagram showing a computer network. The diagram can include a computer, a laptop, a tablet, and a smartphone, all of which are connected to a router, which in turn is connected to a host or the internet. The drawing can be done collaboratively, on a large sheet of paper. Alternatively, you could assign groups to draw the different parts of the network on pieces of paper, then fix the images on the wall and attach them using lengths of yarn.

HOME–SCHOOL CONNECTION

Life skill: Learning to live: communication

Ask students to talk to family members about other networks in their communities. They can ask about community organizations such as sports clubs, farmers' markets, arts-and-crafts related collectives, religious groups, and so on.

EXPLORE

AIM: To explore ideas and information that were introduced through the reading passage in **Learn**.

TIME: 5–7 minutes

- Follow the steps for **Routine 22: Think, Talk, and Create**.
  1. Read aloud the directions. **Say** *Now you will have an opportunity to think and talk about different kinds of networks. Then you will draw a picture showing how that network is organized.*
  2. Form pairs of students. Have them read and think about the **Learn** text. They can then share their ideas in a short discussion and collaborate on a drawing that shows how their chosen network is organized.
  3. When they have finished, invite partners to show their drawings to the class.

OPTIONAL: You may also want to display the drawings in an "art gallery" in the classroom or resource center.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: To be completed at home

- Follow the routine for **Routine 26: Family Test**.
  1. Draw students' attention to Review.
  2. **Say** *You're going to ask a family member to test you on your knowledge.*
  3. **Say** *First, you are going to copy some questions on a piece of paper. Later on today, someone in your family will ask you the questions. Tell them everything you know!*
  4. Have students copy the review questions to take home so that family members can test them.
  5. When students return to class, follow up by asking them: *Based on what you've learned so far, has your answer to the Engage question changed? How?*

SELF-ASSESS

AIM: Help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 29: Promise!**
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the **I can…** boxes in Objectives.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to… .*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g., *I'm going to… take notes during class, ask the teacher when I don't understand, participate in discussions, listen when others speak, etc.*

5. Praise students for their efforts.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Pairing students with classmates who can help them complete the activity. - Inviting students to express understanding of key concepts in a variety of ways (in writing, by drawing, in their own words).					- Supporting students by asking their classmates to help them write. - Making their responses simpler; they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	

Learn by doing LESSON 3 pp. 20–21

COMPREHENSION

AIM: To help students apply what they have learned about networks.

TIME: 7–9 minutes

1 Read and answer

1. Read aloud the directions. Give students a few examples of different kinds of networks that have come up in the lesson so far. Explain that students will now think of another kind of network.
2. Have students think for a moment and then write their responses in the space provided. Remind them to give an example and to explain why it's a network.
3. When they are finished, ask students to form groups. Have students share their responses with other members of the group.
4. Invite students to share their ideas with the class. Give feedback as necessary. (Responses will vary.)

AIM: To compare and contrast the traits and features of the internet vs. intranets.

TIME: 7–9 minutes

2 Read, think, and write

1. Read the directions aloud, explaining that the internet is a synonym for the World Wide Web, while an intranet is a local network, and that students will look at what both of them have in common. You may need to explain to the class that the diagram shown in the Student's Book is called a Venn diagram and is a way to group different items or "sets." Each item, or set of things, is represented by a circle, and where they have things in common, the circle overlaps.
2. Have students add their ideas to the Venn diagram. More advanced students will probably be able to complete it on their own. You may want to mix and match students at other proficiency levels so that they can help each other.
3. Reconvene the class. Draw the Venn diagram on the board and ask students to help you fill it out. Add their suggestions to the diagram, providing feedback and making modifications to the diagram as necessary.
4. Review the diagram with the class and use it to summarize the main points of similarity and distinction between internet and intranet networks. (Suggested answers: **The internet is open to anybody in the world who has the necessary equipment and access. An intranet is available to members only. Both kinds of networks provide users with information that is otherwise difficult to obtain.**)



Networks

Comprehension

1 Read and answer

Give an example of a network that has been covered in this lesson. Explain what makes it a network. (Remember: a network isn't just computers linked together!)

____

____

____

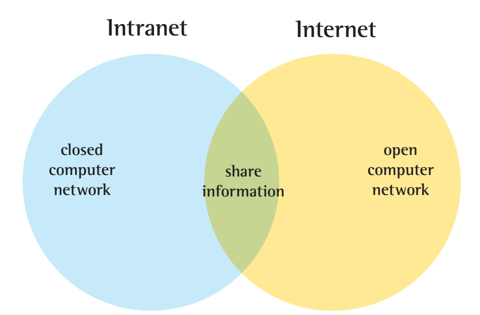
____

____

____

2 Read, think, and write

Compare and contrast intranet and internet networks. An example is included.



80s dial-up internet connection
➜ used phone line to connect to internet (couldn't use phone when on internet) a slow but stable connection

late 80s Digital subscriber line (DSL)
➜ a high-speed connection that uses the same home phone wires to connect to the internet, allowing the phone and the internet to be used simultaneously

20

Critical Thinking

3 Look, think, and write

Look at the timeline at the bottom of the page. How do you think the advancements in technology helped people communicate in their everyday lives, both in the past and now?

ICT and Me

4 Think and answer

Write about a time when you've used a network of any kind to communicate with friends.

90s

emergence of the World Wide Web(abbreviated to WWW), which is a large set of web pages that are linked to each other using hyperlinks

2000+

Wi-Fi devices become popular; can now access internet from your smartphone – portable internet service; hotspots to allow you to access the internet anywhere) on smartphone can help provide internet service to other devices you may have as well.

21

CRITICAL THINKING

AIM: To help students reflect on the internet's impact on our daily lives.

TIME: 7–9 minutes

3 Look, think, and write

1. Read the directions aloud and then direct students' attention to the timeline. Read aloud the information and help students understand any unfamiliar terminology. You may have to explain, for example, that "dial-up internet connections" referred to cables, one end of which was plugged into the computer while the other end was plugged into a phone jack.
2. Have students work independently in writing their responses to the question. Explain that there are no right or wrong answers; students are simply using their imagination to think of ways in which the internet helps people communicate in their daily lives.
3. When students are finished, form groups and have them share their responses with other group members. (Answers will vary.)

ICT AND ME

AIM: To think and talk about personal experiences with computer networks.

TIME: 3–5 minutes

4 Think and answer

1. Read aloud the question and then, to help students get started, share about a time when you used a network to communicate with friends. Example: *A long time ago, I used to live in a different city, but then I moved here. I still keep in touch with my old friends through Facebook, WhatsApp, and other social media apps.*
2. Ask students to write about their own experiences in the space provided.
3. When they have finished, form pairs of students with similar levels of proficiency. Invite them to take turns reading aloud their responses and asking each other questions.

EXTENSION ACTIVITIES

1. Explain to students that the word *Intranet*, begins with *intra-*, which means "on the inside, within." Invite students to discuss talk about some of the uses of an intranet. Ask the class to help you brainstorm possible responses. Examples include a bulletin board or a forum for people to read and respond to.
2. Form a living "computer network" within your class by designating some students as "computers" and others as "routers" and "hosts." Have the computers send written questions to the hosts via the routers. If the hosts need help composing written responses for the computers, have them use real computers for help.

LESSON 4 pp. 22–23

Digital communication tools

OBJECTIVES
- Describe different ways that people can use computer networks to communicate.
- Explain basic scientific concepts relating to ICT tools.
- Describe how computer networks can help us in our daily lives.

LIFE SKILLS
- Learning to live together: communication
- Learning to be: sharing

VALUES
- Academic values: appreciation of technology
- Personal values: independence

ISSUES AND CHALLENGES
- Globalization issues: digital citizenship; civilizational communication

MATERIALS NEEDED
- Writing paper, pencils (Review)

LESSON 4 Digital communication tools

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Describe different ways that people can use computer networks to communicate.	☐ Very well	☐ OK	☐ Need more work
• Explain basic scientific concepts relating to ICT tools.	☐ Very well	☐ OK	☐ Need more work
• Describe how computer networks can help us in our daily lives.	☐ Very well	☐ OK	☐ Need more work

Engage
How do you feel about talking to your friends face to face? How is it different from communicating on the telephone / by email / virtually?

Learn
We communicate using computer networks every day. Every time we use our phone to send a text or buy something, take an online class or download or upload a video, or use an app or program, we' using a computer network. Businesses and organizations use networks every day to share information, some private and in closed networks, and some public, or in open networks.

Household items can be part of a network, too. This is called the "Internet of Things" (IoT). The IoT consists of devices linked to the internet via Wi-Fi. These devices can be controlled, whether you're in the same room or in another city! Examples include Bluetooth speakers to listen to music and home appliances, such as a digital refrigerator and washing machine that can be turned on/off using specific apps.

Bluetooth is a networking technology that connects wireless mobile devices over a short range to form a network to transmit data between different devices.

Computer networks give people of determination more independence, both at home and in public. This independence helps them to save money and time. It also helps to increase confidence levels.

22

OBJECTIVES

AIM: To ensure that students understand the objectives of the lesson.

TIME: 2–3 minutes

- Follow the steps for **Routine 3: Understanding Objectives**.
  1. Draw students' attention to Objectives. **Say** *To meet the objectives of a lesson, it's a good idea to make sure that you understand what the objectives are actually saying.*
  2. Read the objectives aloud to the class.
  3. **Ask** *Are there are any words or phrases in the objectives that you don't understand? What are they?*
  4. Explain any unfamiliar terms or vocabulary.

OPTIONAL: Some students in your class may have special needs that are not visible. Others may have friends or family members that identify as "people of determination." Explain: *People with special needs are commonly referred to as "people of determination." This phrase is more respectful than labels such as "handicapped" or "disabled" because it emphasizes potential and the overcoming of obstacles.* You can help to create an atmosphere of inclusivity by inviting students to share what they know about people with special needs. It is also important to recognize that many people of determination want to have a say in the labels that are used to refer to them. The word "deaf," for example, has largely been replaced by the phrase "hearing impaired." Invite students to share about synonyms and phrases they know that designate other special needs and abilities. Provide feedback as appropriate.

  5. Remind students that they will check the **I can...** boxes after completing the lesson.

ENGAGE

AIM: To enable students to participate confidently and collaboratively in a class discussion that leads to the objectives of the lesson.

TIME: 2–5 minutes

- Follow the steps for **Routine 6: Think–Pair–Share**.
    1. Draw students' attention to Engage.
    2. **Say** *I'm going to ask you a question. Don't say anything! Just think about it quietly.*
    3. Read aloud the question. Let students think silently about some possible answers. They may make simple notes if they wish.
    4. After a minute, say *Now sit shoulder to shoulder with a classmate and share ideas. You can make notes, but keep them very short.*
    5. Check that the students are comparing their ideas with a classmate.
    6. **Say** *I'm going to ask the question again. This time, put up your hand to answer.*
    7. Read the question aloud again. Call on students with their hands up and have them share their ideas with the class. They can refer to their notes but shouldn't read whole sentences aloud.

OPTIONAL: To encourage more discussion, ask follow-up questions *<Name>, what do you think? <Name>, why do you think that? Can you give an example?* etc.

LEARN

AIM: To activate students' background schema and encourage them to anticipate the content so they can build context before reading.

TIME: 2–5 minutes

- Follow the steps for **Routine 11: Preview**.
    1. **Say** *Previewing an article before you read can help you build context. You will have an idea what the article is about before you even start reading. It's a good habit to get into because it will help you understand and remember what you read.*
    2. Read aloud the first sentence. Tell students that the first sentence of a reading passage is called a "topic statement." It gives the main idea of the article and the ideas or information that will be covered. The topic statement here is *We communicate using computer networks every day.*
    3. **Ask** *Based on your preview, what do you think the article is about?* Listen to student responses and provide feedback that helps them focus on the ideas suggested by the subheads.
    4. Tell students to keep their guesses in mind as they read the article. When they finish, ask if their guesses were correct.

OPTIONAL: Write guesses (both correct and incorrect) on the board. Refer to them during the lesson, i.e., *Amal guessed we would learn about using apps to listen to music. She was right!*

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
Use the demonstartion strategy to move files or data from one device to another via Bluetooth, so that students can understand it better.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Have students listen to the text while you or a classmate reads the text aloud. Invite students to summarize the text in their own words.

Networks
and people of determination

Hatem uses computer networks daily. He listens to music on his Bluetooth speakers. His favorite website is the Egyptian Knowledge Bank because it has a lot of interesting information. His favorite subject is archaeology. One day, he wants to be an explorer like Fred Hiebert!

Hatem also shops online. He thinks e-commerce makes life so much easier for everyone. He always asks his parents before he goes online shopping. His parents remind him to think about digital privacy, so he's extra safe about giving out his information.

Hatem is visually impaired, so he does schoolwork online, using screen readers, for audio feedback, and for help with reading braille. Screen readers helps Hatem do everything he needs to do, including writing papers and accessing documents on his laptop.

Explore

Work in a group. You and three friends want to start a campaign to clean up a local community park. You want to:

- reach out to as many people as possible
- share important information about the campaign
- come up with ways to track tasks and your campaign's progress.

How would you use ICT tools / computer networks to help you with the campaign? Share your ideas with the class.

Review

1. Explain how people in different places use computer networks to communicate.
2. How can computer networks help us in our daily lives? Provide specific examples.

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

23

BE THE EXPERT

According to the United Nations, there are at least 12 million people in Egypt who are living with some form of disability. Advocates for the rights of people with disabilities have pushed for reforms, such as quotas mandating that employers aim to have people of determination make up at least 5% of their staff, but their efforts have been complicated by the Covid 19 pandemic. You can learn more about these and other related programs by visiting the websites for Humanity & Inclusion (https://www.hi-us.org/egypt), and the State Information Service (https://www.sis.gov.eg/Story/142861/The-National-Council-for-Persons-with–Disabilities?lang=en-us).

TEACHING TIP

To help students understand the issues that people of determination have to face on a daily basis, you can invite a member of your community who has some expertise in this area to come speak to the class. It might be a physical therapist, a special needs expert at your school, or a person in your community (possibly a student's family member) who is living with a disability. Have students prepare questions in advance. On the day of the visit, introduce the visitor and then allow them to give their presentation. Afterwards, facilitate a Q&A session between the visitor and students in your class.

HOME-SCHOOL CONNECTION

Life skill: Learning to be: sharing

Invite students to share with family what they have learned so far in this theme. Encourage them to tell family members about computer parts, networks, and people of determination.

EXPLORE

AIM: To explore ideas and information that were introduced through the reading passage in **Learn**.

TIME: 7–10 minutes

- Follow the steps for **Routine 19: Time for a Discussion!**
  1. Tell students that the class will discuss these questions as a way of reviewing the material that they just read.
  2. Put students in groups of four. Read aloud the instructions and questions in Explore and invite students to respond. Provide feedback as the discussion progresses, helping to clarify meanings from the text as necessary.
  3. When the discussion has concluded, ask students to share about one thing from the discussion that they want to remember.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 4–6 minutes

- Follow the steps for **Routine 27: Quick Write**.
  1. Draw students' attention to Review. Read aloud the questions.
  2. **Say** *You don't need to spend a lot of time thinking about your responses. Just write the first thing that comes into your mind. Ready? Begin!*
  3. Give students 4–5 minutes to write their responses.
  4. When they are finished, invite students to share their responses with a classmate.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 28: 3–2–1**.
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the **I can...** boxes in **Objectives**.
  2. **Say** *Think about how well you can do each objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a short list for me:*
     - *three things you found interesting in this lesson*
     - *two questions you still have for me*
     - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

  5. In the next lesson, clarify any questions that students still have.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Writing concepts and essential vocabulary on the board (networks, Braille, Bluetooth) along with simple definitions. - Summarizing each paragraph by giving just the most important idea.					- Supporting students by asking their classmates to help them write. - Making their responses simpler; they could be oral responses, signs, or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Helping students understand Bluetooth technology by allowing them to touch Bluetooth devices while you explain how they work.

Learn by doing LESSON 4 pp. 24–25

COMPREHENSION

AIM: To help students understand how everyday devices and appliances are connected through the Internet of Things (IoT).

TIME: 2–4 minutes

1 Read and answer

1. Read aloud the directions. Have students create a list showing devices and appliances in their home or classroom that are connected to the Internet of Things. You might give one or two examples to help them get started: *In my house we have a smart TV. It connects to the internet so we can watch movies that stream online.*
2. Give students a few minutes to record their own responses in the space provided.
3. Invite students to share their responses with the class. Keep track of the conversation by writing a list of their ideas on the board.
4. Look at the list and summarize for students: *Many of the devices and appliances in our homes are connected to the internet. It's called the "Internet of Things" because it connects things, as opposed to users, or people.*

AIM: To think about how networks help people communicate and share data in different kinds of settings.

TIME: 5–7 minutes

2 Look and answer

1. Read the directions and do a think-aloud to help students with the first item: *I wonder how a network might be set up in a bank? Well, I know that banks are connected to other banks. That way, people with accounts at the Central Bank of Egypt can also use their ATM cards at Banque Misr and vice versa.*
2. Give students time to record their responses under the other images. To foster the reinforcement of skills at all levels, try pairing advanced students and intermediates with classmates at the beginning level.
3. Call on volunteers and invite them to share their ideas with the class. Give corrective feedback as necessary. (Suggested answers: **Libraries are connected to other libraries and to users. So if a book isn't available at one branch, a user might be able to find it through another branch; Government offices are connected to other offices that provide services to the public. Each branch is connected to the Cabinet of**

Learn by doing LESSON 4 Digital communication tools

Comprehension

1 Read and answer

Give examples of items in your home or classroom that can be described as using the IoT. Explain.

____

____

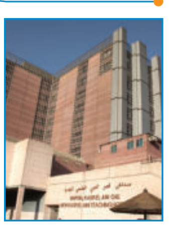
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____

2 Look and answer

What kind of computer networks might be set up in the following places? Explain your choices.



__________ __________ __________ __________

3 Read and write

Express the following terms in your own words.

1. internet: ______________________
2. website: ______________________
3. e-commerce: ______________________
4. online shopping: ______________________

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Ministers; Schools are connected to other schools at the local level, and they are also connected at the national level through the Ministry of Education.)

AIM: To apply what students have learned about networks in writing sentences of their own creation.

TIME: 5–7 minutes

3 Read and write

1. Read the directions aloud. Write a sample sentence on the board for the first item: *The internet is a global computer network.*
2. Pair students at beginning levels with intermediates and advanced students. Have partners work together in creating sentences for the remaining items.
3. When students are finished, invite volunteers to share their answer with the class. Write at least one sample sentence for each item on the board. (Suggested answers: **2. A website is a set of pages on the internet. 3. E-commerce has to do with business that is done online. 4. Online shopping is when you buy things through retailers and other businesses through the internet.**)

Critical Thinking

4 Think and write

Think of ways you can be sure to use computer networks responsibly. Write a list.

Compare your list with a partner. Does your partner have suggestions that you would like to add to your list? If so, be sure to add them.

Cross-curricular Connections: Career Skills

5 Think and write

It's Career Day at school! Sara is talking about her father's job. Read, and then answer the questions that follow.

My dad owns his business. He usually works at his office, but sometimes, he works from home. He has a home office that includes a laptop. It links him to his company's intranet. My dad is constantly video conferencing with clients on his laptop. He uses his social media apps on his phone to communicate with clients and other business owners.

1. How do ICT tools help Sara's dad at work as a business owner?

2. Think about Mr. Hiebert and how he uses ICT tools to communicate. How do these tools help him at work as an archaeologist?

ICT and Me

6 Think and answer

Think about the ICT tools you learned about in this lesson. When did you or when would you use these ICT tools in your own life? What about your family or friends?

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CRITICAL THINKING

AIM: To think and discuss how the internet can be used responsibly.

TIME: 4–6 minutes

4 Think and write

1. Read the directions aloud. Clarify for students that "responsibly" means "in a way that protects yourself and prevents harm to others as well."
2. Give students a few minutes write their ideas in the space provided.
3. When they are finished, have students compare their ideas with a partner. Encourage them to ask each other questions if they want clarification or would like to hear an example.

CROSS-CURRICULAR CONNECTIONS: CAREER SKILLS

AIM: To reinforce distinctions between the internet and local intranet systems.

TIME: 4–6 minutes

5 Think and write

1. Read aloud the directions. Invite a volunteer to read aloud the paragraph about Sara's father's business.
2. Have students work independently in writing their responses to the questions in the space provided.
3. When they are finished, have students form small groups so that they can share their ideas with other group members. Circulate as groups discuss, and provide affirmative feedback.

ICT AND ME

AIM: To think about and discuss ICT applications in daily life.

TIME: 4-6 minutes

6 Think and answer

1. Read aloud the directions. Encourage students to reflect on how they use ICT in their daily life, and to use their imagination in think about how family members also use ICT.
2. Have students work independently in writing their responses.
3. When they have finished, invite volunteers to share their responses with the class. Add to the discussion by explaining to the class how you use ICT in your daily life as well.

EXTENSION ACTIVITIES

1. Have students help you create a survey that asks how people use ICT in their daily lives. You can create the survey using Google Forms, Survey Monkey, or Jotform. First, brainstorm a list of questions on the board, for example: *How many devices do you have that are connected to the internet? How much time do you spend online everyday?* Put the questions in a survey and then send a link to possible respondents. You might send the form to students' parents and/or family members, for example. When all the responses have been gathered, discuss the results with the class.
2. Play a trivia game with students using terms and concepts that they have learned about in this lesson. Form two teams and then pose a question to the class, such as: What's the difference between the internet and an intranet? The first team correctly gets a point. Repeat with other questions. The first team that gets 5 points is the winner.

LESSON 5 pp. 26–27

Internet connection problems and solutions

OBJECTIVES
- Describe common ICT issues.
- Come up with solutions to common ICT problems.
- Explain how following a process helps me to troubleshoot problems.

LIFE SKILLS
- Learning to do: decision-making
- Learning to know: problem-solving

VALUES
- Academic values: perseverance

ISSUES AND CHALLENGES
- Globalization issues: technological awareness

MATERIALS NEEDED
- Ball or small bean bag (Engage)
- Classroom computers (Engage; Learn By Doing)

LESSON 5 Internet connection problems and solutions

Objectives

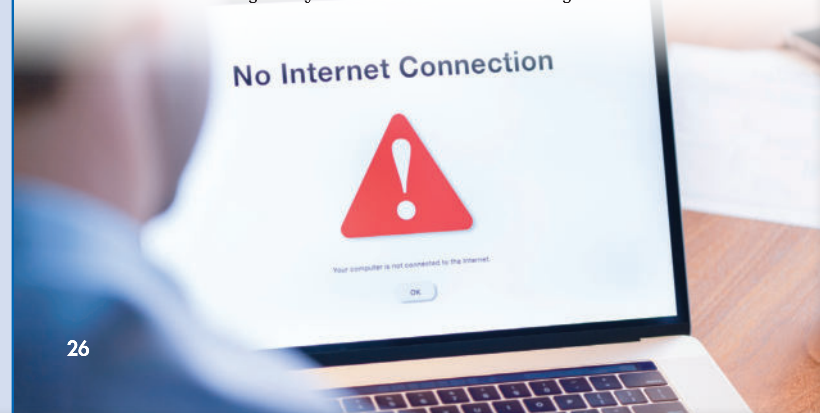
By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Describe common ICT issues.	☐ Very well	☐ OK	☐ Need more work
• Come up with solutions to common ICT problems.	☐ Very well	☐ OK	☐ Need more work
• Explain how following a process helps me to troubleshoot problems.	☐ Very well	☐ OK	☐ Need more work

Engage
What issues have you run into with ICT tools? Did you resolve them? If so, how? Did someone help you?

Learn
Fred Hiebert uses Word, Excel, and PowerPoint to make presentations about his discoveries, as well as email and video conferencing to share them with colleagues. While using these programs, he can face many problems related to the device he's using or its software, or to a weak or interrupted internet connection.

Following a process
Follow this troubleshooting process to help with computer problems:

1. Identify the problem. What's the issue? Is it a hardware or software problem? Have you committed an error that causes the problem?
2. Think about and plan different ways you might solve the problem.
3. Go through your potential solutions to the problem. Try each one until you find a solution or get to your final idea without solving it.



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OBJECTIVES

AIM: To engage students' interest in the lesson objectives and content.

TIME: 2–3 minutes

- Follow the steps for **Routine 1: Time to Explore!**
  1. Draw students' attention to the Lesson topic. **Say** *This lesson we're going to learn about common internet connection problems and solutions.*
  2. Read the objectives aloud to the class.
  3. Write on the board ***Now's our chance to explore …*** . To ensure that students think in detail about the objectives, write more actions directly below ***explore***, e.g., ***think about, learn about, study, discuss, look at, investigate, consider, plan***.
  4. Give students a minute to look at the lesson and assess what they'll explore.
  5. Elicit answers from individual students, e.g., ***Now's our chance to … troubleshoot problems!***

ENGAGE

AIM: To activate interest in the lesson content through a game-like discussion.

TIME: 3–4 minutes

- Follow the steps for **Routine 9: Around the World**.
  1. Read aloud the questions in **Engage**. Model an answer, using an example from your own personal experience: *One time, I went to switch on my laptop, but it wouldn't turn on. I realised that the battery was dead and it needed to be recharged.*
  2. Designate the next person to share by throwing a ball or bean bag to a student. Have them respond to the **Engage** questions by telling the class about a connection problem they had and how it was resolved.
  3. When the student is finished, have them throw the ball to the next student, and so on, until at least four or five students have had a chance to respond to the Engage questions.
  4. Wrap up by telling students they will read, think, and write about other problems and how to solve them in the course of this lesson.

LEARN

AIM: To enable students to read text in a way that maintains interest; to help students improve their own reading ability.

TIME: 15–20 minutes

- Follow the steps for **Routine 16: Buddy Reading.**
  1. Form pairs. Students sit with a classmate, preferably with a similar reading ability, shoulder to shoulder.
  2. **Say** *You're Reading Buddies. That means you're reading friends, so your job is to help each other. You're going to take turns reading the text to each other. If you're reading, remember you can ask for support from your Reading Buddy, or even ask them to take over for a while. I'll be moving around the classroom if you need me.*
  3. Point to the first paragraph of the text. Tell students to take turns reading the numbered items and problem/solution text aloud to their partner.
  4. While Reading Buddies work together, circulate around the room and provide help with pronunciation and comprehension as necessary.
  5. To speed up the lesson, shout *My Turn!* and read a section aloud. Then hand over the next section to the buddies. Continue alternating like this, so that they receive practice listening to you, as well as to each other.

Teaching support for an integrated classroom

Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
Use visual flow charts based on order and sequence in learning the steps to troubleshoot internet connection.					- Supporting students by asking their classmates to help them write. - Making their responses simpler: they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Have students pair up with classmates who can help them read the text.

4. Which solution worked? If you didn't solve the problem, what did you learn while trying? How can what you learned help you the next time you try to solve a problem?
5. If you do not find a solution to the problem, you should ask your teacher or a member of your family for help.

Following a process when troubleshooting will help you find different ways to solve problems. An idea you came up with that didn't work for a particular problem may work for another.

Common computer problems and possible solutions:

Problem: Computer slows down when opening an app
Possible solutions: Shut down and restart; check for software updates; delete unwanted apps.

Problem: Browser running slow
Possible solutions: Check Wi-Fi signal; make sure to update the apps on your device.

Problem: No internet connection
Possible solutions: Use the software to troubleshoot your Wi-Fi connection; check that the router is connected; restart your router; try a new ethernet cable; contact the customer service of your ISP for help.

Problem: Slow to download
Possible solutions: Restart computer and router; check internet speed

Explore

In groups, discuss the following scenario: Your teacher has asked you to find information on a particular subject, but your internet connection isn't working. What other ways can you find the information you need? Present your ideas to the class.

Review

1. Go back to Lesson 2. Review the possible problems and solutions provided. Come up with a new possible solution to each problem.
2. Discuss using a process to troubleshoot problems. How can following a process help you to become a more educated digital citizen?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

You can use these websites to troubleshoot different problems.

- **BrightHub** provides a wide array of articles on computer hardware and software, troubleshooting, and security. https://www.brighthub.com
- **Computer Hope** provides tips, an online dictionary, and discussion boards.https://www.computerhope.com
- **ICT Literacy** helps students to are ICT literate. https://ictliteracy.merlot.org/learning_resources.html

TEACHING TIP

Have students practice looking up answers to common connection problems. Brainstorm a list of problems on the board that wasn't covered in the lesson. For example, **Website isn't working**. Possible solutions are **check you have the correct URL; use another site that is reliable.** In groups students find solutions using one of the websites above, or by using their internet browser. Students then compare and contrast the information that they found.

HOME–SCHOOL CONNECTION

Life skill: Learning to know: problem-solving

Students invite family members to ask a question they have about connection problems. Students then bring the question to class and ask classmates help them to find the answer.

EXPLORE

AIM: To lead this discussion/activity in a way to meet the objectives while also linking into what students have learned so far.

TIME: 5–10 minutes

- Follow the steps for **Routine 21: The 2 to 4 Discussion**.
  1. Introduce the **Explore** topic.
  2. **Say** *Sit with a classmate, shoulder to shoulder. Discuss the question(s) together.* Students discuss the questions in pairs.
  3. **Say** *Now join another pair and form a group of four. Sit knee to knee and share your ideas.* Students discuss the questions again, this time as a group of four.
  4. Go around the classroom and listen to the pairs/groups while they are talking. Give help, if needed. Make sure students are reviewing some previous knowledge.
  5. Elicit some answers from the class.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 4–6 minutes

- Follow the steps for **Routine 27: Quick Write**.
  1. Draw students' attention to Review. Read aloud the questions.
  2. **Say** *You don't need to spend a lot of time thinking about your responses. Just write the first thing that comes into your mind. Ready? Begin!*
  3. Give students 4–5 minutes to write their responses.
  4. When they have finished, invite students to share their responses with a classmate.

SELF-ASSESS

AIM: Help students complete a truthful self-assess and find the assistance they need to further develop.

Time: To be completed at home

- Follow the steps for **Routine 29: Promise!**
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the **I can…** boxes in **Objectives**.
  2. **Say** *Think about how well you can do each objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to… .*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g., *I'm going to… take notes during class, ask the teacher when I don't understand, participate in discussions, listen when others speak, etc.*

  5. Praise students for their efforts.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Help students review key concepts by having them fill out sentence frames. Problem: What should you do if an ____ is running slowly? (app) Solution: See if there's an ________ for the app. (update)					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	

Learn by doing LESSON 5 pp. 28–29

COMPREHENSION

AIM: To help students think about computer-related problems at school.

TIME: 3–4 minutes

1 Read and answer

1. Read aloud the directions. You might help students get started by offering an example of your own.
2. Give students a few minutes to record their ideas in the space provided. You may wish to pair less proficient students with students at more advanced levels.
3. When students are finished, invite them to read aloud their ideas.
4. Tell students that they will brainstorm solutions to their problems in the next activity.

AIM: To help students think about solutions to computer-related problems at school.

TIME: 3–4 minutes

2 Think and answer

1. Read aloud the directions. To help students get started, give a solution to the problem you shared in the previous activity.
2. Give students a few minutes to record their ideas in the space provided. If students find it difficult to think of solutions to the problems they wrote about in the previous activity, pair them up with other students or form small groups.
3. Call on volunteers to share about the problems and solutions they discussed in their groups.
4. Provide corrective feedback as appropriate. If necessary, refer students back to the text in **Learn**.

CRITICAL THINKING

AIM: To apply what students have learned to common internet connection problems at home and school.

TIME: 4–6 minutes

3 Look, think, and answer.

1. Tell students they are going to think about and try to troubleshoot ICT problems that sometimes come up at home and at school.
2. Form pairs or small groups. Have students work together in writing down the problems, and then coming up with a solution for each of those problems.
3. Invite groups to share their ideas with the class. Provide feedback as necessary. (Suggested answers: **1. PROBLEM: My cell phone has not been working correctly since a new app was installed. SOLUTION: Uninstall it and see if the phone runs faster. 2. PROBLEM: My browser is working very slowly, but I have a good Wi-Fi signal. SOLUTION: Move the router, so it is closer to where you are working. 3. PROBLEM: I have no internet connection on my PC. SOLUTION: Reboot the router and modem – this can help to resolve any background problems.**)



Internet connection problems and solutions

Comprehension

1 Read and answer

List three possible computer problems that you may encounter at school.

____

____

____

2 Think and answer

Provide two solutions to each problem above.

Problem 1: ______________________

____

Problem 2: ______________________

____

Problem 3: ______________________

____

Critical Thinking

3 Look, think, and answer

1. Your cell phone has not been working correctly since a new app was installed. How can it be resolved?
   Problem: ______________________
   Solution: ______________________
2. My browser is working very slowly, but I have a good Wi-Fi signal. How can it be resolved?
   Problem: ______________________
   Solution: ______________________
3. I have no internet connection on my PC. How can it be resolved?
   Problem: ______________________
   Solution: ______________________

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Issues and Challenges

4 Read and solve

1. You just downloaded some files from the internet. Suddenly, your computer starts to run slowly. You have an external hard drive with plenty of room, so that's not the problem. You close all the applications that are running, but that doesn't help. You restart your computer, but that doesn't help either. What might be the issue? How can it be resolved? You might need an expert technician to help you.

2. You want to make an attractive presentation. You immediately begin using Word and then realize you need images, graphs, and tables. What should you do?

ICT and Me

5 Read and answer

How confident are you when it comes to troubleshooting common ICT problems? How comfortable are you when it comes to asking others for help when you need it? Explain.

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ISSUES AND CHALLENGES

AIM: To practice troubleshooting two connection problems.

TIME: 5–7 minutes

4 Read and solve

1. Tell students they are going to practice troubleshooting two internet-connection-related problems that could come up at school or at home.
2. Form pairs or small groups. Have groups read each scenario, and then write down a possible solution. Remind them that they should come up with two possible solutions for the second scenario.
3. When students are finished, invite groups to share their ideas with the class. Provide feedback as necessary. (**1. The SSD might be out of memory. You could click on the icon of the SSD on your desktop and see if it's full. If that doesn't work, you might want to see a specialist. There could also be a problem with the computer's processing speed; 2. Start again, plan your content, research online and collect images, graphs and data. Decide which software is best for each content type. Then import content into Word and PowerPoint.**)

ICT AND ME

AIM: To have students reflect on what they have learned so far.

TIME: 3–4 minutes

5 Read and answer

1. Read aloud the questions. Tell students there are no right or wrong answers.
2. Have students work independently in writing responses to the questions.
3. When they have finished, tell students that they can use their responses to help them identify areas of growth, and areas that may need improvement. Encourage them to come speak with you if they feel that they need help or extra practice.

EXTENSION ACTIVITIES

1. Tell students that they are going to pretend to host an ICT-related talk show on the radio or TV. Start by assembling a panel of experts. Have them sit in front of the class. Then invite the rest of the class to take turns "calling in" with their internet-connection-related problems. Have the panel discuss the problem and several possible solutions before making a recommendation.
2. This theme introduces students to many new words and concepts, and it can be challenging for students to retain all this information without some form of review. If they haven't done so already, encourage them to keep a notebook in which they record new concepts and vocabulary. Writing down the definitions of these vocabulary items in their own words and reviewing them periodically will help students retain the information.

LESSON 6 pp. 30–31

Digital file management

OBJECTIVES

- Describe different device accessories.
- Describe what a file system is.
- Explain how to organize information.

LIFE SKILLS

- Learning to be: self-management
- Learning to know: creativity

VALUES

- Personal values: independence

ISSUES AND CHALLENGES

- Globalization issues: digital citizenship

MATERIALS NEEDED

- Deck of cards, pictures and word cards (Extension Activities)



OBJECTIVES

AIM: To ensure that students understand the objectives of the lesson.

TIME: 2–3 minutes

- Follow the steps for **Routine 3: Understanding Objectives**.
  1. Draw students' attention to the Objectives. **Say** *To meet the objectives of a lesson, it's a good idea to make sure that you understand what the objectives are actually saying.*
  2. Read the objectives aloud to the class.
  3. **Ask** *Are there are any words or phrases in the objectives that you don't understand? What are they?*
  4. Explain any unfamiliar terms or vocabulary. Some students, for example, may be unfamiliar with the phrase "device accessories." Explain: *A device is a small machine. Usually when we use the word "device," we are referring to a hand-held ICT tool such as a smartphone. An accessory is something that you can add on or connect to a device. One possible accessory for a smartphone, for example, is a set of headphones.*
  5. Remind students that they will check the **I can...** boxes after completing the lesson.

ENGAGE

AIM: To engage students in a discussion that leads to a lesson objective or life skill; use critical thinking to investigate clues in photos.

TIME: 2–5 minutes

- Follow the steps for **Routine 7: Photo Detectives!**
  1. Draw students' attention to **Engage**. Tell students to cover the photos with a book.
  2. Read the **Engage** question aloud.
  3. Elicit some quick answers from the class.
  4. **Say** *You're going to be photo detectives! Uncover the photos and look for clues!*
  5. **Say** *Sit knee to knee. Investigate the photos. Tell each other what you find.*
  6. Read the **Engage** question aloud again. Elicit answers from individual students.
  7. Then have a class discussion and ask students to share their ideas.

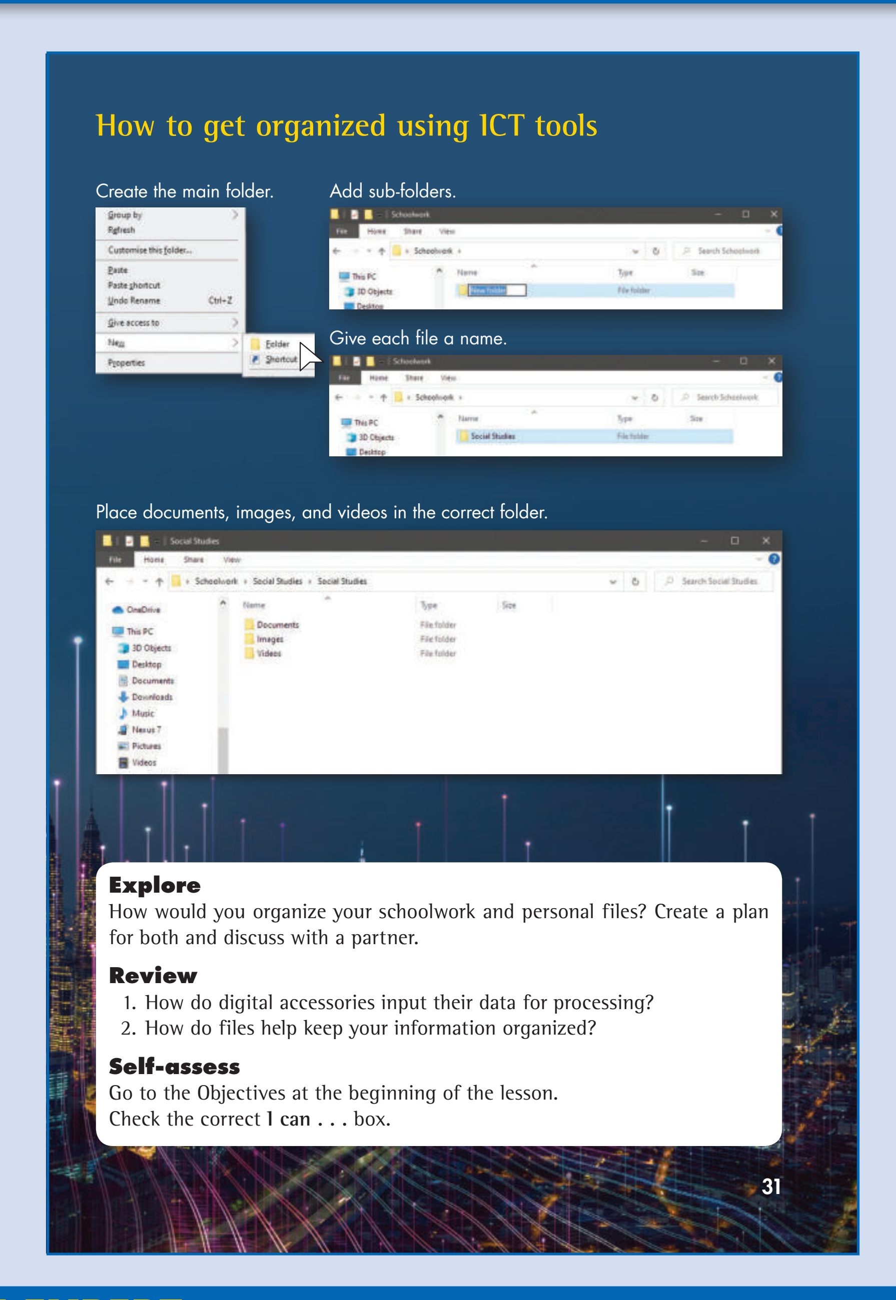
LEARN

AIM: To help students achieve the lesson Objectives by organizing the new information they have learned.

TIME: 15–20 minutes

- Follow the steps for **Routine 14: Mind-Mapping**.
  1. Draw students' attention to **Learn**. Read the heading and the lesson Objectives.
  2. Draw a big box in the center of the board and label it: *File-management*.
  3. Have students read the information in **Learn**. Pause at useful points in the text and add to the information in the mind map on the board. The aim is to visually organize what students learn about the topic. The mind map should show the file-management system of a main folder, sub-folders, file names, and different types of files, such as documents, images, and videos.

<table>
<tr><th colspan="7">Teaching support for an integrated classroom</th></tr>
<tr><th>Intellectual disability and slow learning</th><th>Autism</th><th>Hearing impairment</th><th>Attention deficit hyperactivity disorder</th><th>Learning disability</th><th>Motor disability and cerebral palsy</th><th>Blind and weak sighted</th></tr>
<tr><td colspan="5">Use the demonstration strategy to explain how to manage digital files.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td>- Invite students to sit closer to the board while creating the mind map.
- Explain the content of the mind-map.</td></tr>
</table>



BE THE EXPERT

There is lots of good advice online about how to keep your digital files organized, but sometimes it is difficult to decide which bits to follow. However, there are some basic ones you should always follow: 1 Be organized 2 Place all documents in your “Documents” folder, all images in your “Images” folder, etc. 3 Create a logical file system. 4 Try not to create folder structures which are so complicated you cannot remember where things are stored. 5 Keep the same file-naming conventions. 6 File your work as you go along.

TEACHING TIP

Form pairs or small groups and have students discuss the ideas for file-management mentioned above.

HOME–SCHOOL CONNECTION

Life skill: Globalization issues: digital citizenship

Challenge students to come up with at least two further bits of advice and explain how they came up with their idea. Ideas could include: delete unwanted files regularly, number folders in sequence 1, 2, 3, etc., don't save every document, organize files by project or by date, don't forget to follow your system!

EXPLORE

AIM: To enable students to work quickly, creatively, and collaboratively to generate ideas; lead an activity based on their ideas to meet the objectives.

TIME: 10 minutes

- Follow the steps for **Routine 20: Brainstorm**.
  1. Introduce the **Explore** question. Read the instructions aloud.
  2. **Say** *Now we're going to think of lots of ideas, quickly, without stopping!*
  3. Have students sit in pairs.
  4. **Say** *One person in each pair needs a piece of paper and a pen (or pencil). They will write your ideas down on the paper.*
  5. **Say** *You have 1–2 minutes to write down all the ideas you can think of! Don't stop!*
  6. **Say** *Go!* The activity begins. After one or two minutes, call *Stop!*
  7. Give students time to read the ideas on their piece of paper.
  8. **Ask** *What ideas did you think of? Tell the class an idea that you like.* Lead a group discussion based on their brainstorm ideas.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

- Follow the steps for **Routine 25: Test a Partner**.
  1. Draw students' attention to Review. Explain to students that they are going to test each other on what they've learned this lesson.
  2. **Say** *Sit with a classmate, knee to knee. Discuss the questions in your book.*
  3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well.
  4. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop; encourage critical thinking.

TIME: To be completed at home

- Follow the steps for **Routine 28: 3–2–1**.
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the **I can…** boxes in **Objectives**.
  2. **Say** *Think about how well you can do each objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a short list for me:*
     - *three things you found interesting in this lesson*
     - *two questions you still have for me*
     - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

  5. In the next lesson, clarify any questions that students still have.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Writing concepts and essential vocabulary on the board in different colors. - Inviting students to express understanding of key concepts in a variety of ways (in writing, by drawing, in their own words).					- Supporting students by asking their classmates to help them write. - Making their responses simpler: they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Explain the stages of practical file organization using the screen reader program.

Learn by doing **LESSON 6** pp. 32–33

COMPREHENSION

AIM: To help students apply what they have learned about digital file management to everyday life.

TIME: 3–5 minutes

1 Look and answer

1. Read aloud the directions and then verbalize an idea that students could use for the first row of the chart: *I can use a scanner to copy an illustration that I want to use for a poster.*
2. Have students work independently or in pairs to finish the chart. Circulate and offer assistance as necessary.
3. When students are finished, copy the chart onto the board. Call on volunteers to help you complete the chart. (Suggested answers: **Scanner: Change pictures and documents into files; Digital camera: Take pictures you can store on your laptop; QR code: Scan with your smartphone at a restaurant so you can see the menu.**)
4. Tell students they can use the chart on the board to make revisions or additions to their own charts.

AIM: To think about and discuss the principles of good organization.

TIME: 3-4 minutes

2 Look and answer

1. Read the directions aloud and direct students' attention to the two images.
2. Ask students to explain why they think one file system is better than the other. Use their responses to lead a discussion about filing systems in general. (**One file system is very disorganized because none of the items is in a folder. Everything is out on the desktop, and that makes it hard to find things. The other file system is more organized because the user has created folders to store files in a way that makes sense.**)
3. Tell students that, in the next activity, they will talk about different ways of organizing files.



Digital file management

Comprehension

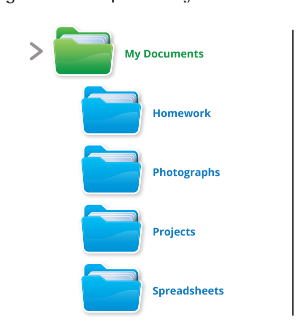
1 Look and answer

Look at the chart. Provide an example of how you might personally use each device accessory.

scanner	
digital camera	
QR code	

2 Look and answer

Look at the files shown in the two figures below. Which file system is better organized? Explain why.





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Critical Thinking

3 Plan and practice

With a classmate, discuss how you might organize the files from task 2 that weren't well organized. Write the steps you will take.

Now draw your newly organized file system.

ICT and Me

4 Think and answer

Organize files on a personal or school-owned device. Explain how you organized them.

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CRITICAL THINKING

AIM: To explore different ways of organizing electronic files.

TIME: 5–7 minutes

3 Plan and practice

1. Read the directions aloud. Tell students to look at the disorganized information from the previous activity and to think about how that information could be organized.
2. Form pairs of students. Have students work together in thinking about a system they could use for organizing the files. They should then write down the steps they would take on the lines provided.
3. Remind students to draw a picture of their newly organized file system in the blank space.
4. When students are finished, invite pairs of students to come up to the board and copy their drawing onto the board.
5. Look at the drawings with the class. Discuss the pros and cons of each system shown. What makes some more efficient than others?

ICT AND ME

AIM: To practice organizing items in an imaginary filing system.

TIME: 4–6 minutes

4 Think and answer

1. Read aloud the directions. Tell students they will complete this activity independently.
2. Have students draw a diagram showing how they would organize items on a personal device or one that they use at school.
3. When students are finished, form pairs or small groups.
4. Have students share their diagrams with group members. As they share their diagrams, they should explain why they chose the filing system they did, and why it makes sense to them.

EXTENSION ACTIVITIES

1. Explain to students that a deck of cards is like a filing system in the sense that face cards belong to one category, for example, while suits belong to another category. To help them understand, shuffle a deck of cards and have students practice putting the cards in order as quickly as possible. Afterwards, ask students what clues they used to help them sort the cards. Use affirmative feedback, such as: *Oh, so first you looked for cards with hearts. Then you divided those cards into face cards and number cards. In other words, you used common traits and features to help you organize the cards.*
2. Assemble a set of pictures and word cards. Form groups of students and have them practice sorting the cards into a filing system that will make it easy to retrieve information when needed. Prompt them by saying: *Will you mix pictures and words together? Probably not. It makes more sense to put pictures in one group and then words in a different group. But then how should you subdivide the pictures and words? You will have to think of a system that makes the most sense.*

LESSON 7 pp. 34–35

Information search strategies

OBJECTIVES
- Explain how planning effective searches aids in online research.
- Discuss how using keywords and subtopics can increase the accuracy of search results.
- Explain the useful strategies when performing online research and recording results.

LIFE SKILLS
- Learning to do: decision-making
- Learning to know: critical thinking

VALUES
- Academic values: curiosity
- Citizenship values: participate in scholarly research

ISSUES AND CHALLENGES
- Globalization issues: digital citizenship, technological awareness

MATERIALS NEEDED
- Writing paper (Explore)
- Pens or pencils

LESSON 7 Information search strategies

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Explain how planning effective searches aids in online research.	☐ Very well	☐ OK	☐ Need more work
• Discuss how using keywords and subtopics can increase the accuracy of search results.	☐ Very well	☐ OK	☐ Need more work
• Explain the useful strategies when performing online research and recording results.	☐ Very well	☐ OK	☐ Need more work

Engage
What are strategies you use or would use when searching for information online? What advice would you give to others?

Learn
When searching for information, you are in fact constructing knowledge. It is important that you plan your searches. You must also analyze and check the information you find critically. The internet is very big and you must decide exactly what information you want. A lot of the information you first find when searching will also need evaluating, selecting, and organizing, so you will then need to process and organize information before completing your work.

It is important to work collaboratively with classmates when constructing knowledge. Here are some suggested steps:

- Decide on a topic.
- Break the topic down into smaller subtopics, for example: What information about the original will we have to collect to build a replica? What technologies will be used to gather the information about materials, shapes, colors, sizes? What tools will be used to store this information?



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OBJECTIVES

AIM: To encourage students to take responsibility for their own learning needs and paths.

TIME: 2–3 minutes

- Follow the steps for **Routine 2: What Do I Need to Do?**
  1. Draw students' attention to the Lesson topic. **Say** *This lesson we're going to learn how to use efficient and effective information search strategies.*
  2. Read the objectives aloud to the class.

Optional: Ask *Which objectives can you already do?* Elicit some ideas.

3. Ask *What kind of things will we need to pay attention to during the theme?*
4. Elicit ideas from the students, e.g., **I need to pay attention to search terms and take notes!**
5. Write students' ideas on the board and remind students to pay attention to them during the lesson.

ENGAGE

AIM: To activate students' prior knowledge and help them develop a conceptual schema for the lesson.

TIME: 2–3 minutes

- Follow the steps for **Routine 10: Activate Prior Knowledge**.
  1. Draw students' attention to Engage and read aloud the questions.
  2. Have students look at the images. Ask *What do you already know about doing online searches?*
  3. Invite students to share their responses with the class. Possible answers include: **You should use terms that are precise and exact. Short phrases will give you the best results. You can use sentences and questions, but only if you actually want the sentence or question to be in the result.**
  4. **Say** *We will learn about more strategies for doing online searches as we go through the lesson.*

LEARN

AIM: To enable students to read text in a way that maintains interest.

TIME: 15–20 minutes

- Follow the steps for **Routine 15: Popcorn Reading**.
  1. **Say** *We're going to try Popcorn Reading now. I'll ask a student to read aloud. When I say "Popcorn," that student should stop, look around, quickly choose the next person to read, and say their name.*
  2. Remind the class *Remember that you must choose a NEW person; don't choose the person who just read! And stay alert, because you could be called any time!*
  3. Assign the first person to read aloud. The other students read along silently.
  4. Call Popcorn when the reader reaches a logical point in the text (e.g., the end of a paragraph or idea). That reader shouts the name of the next person to read.

OPTIONAL: Instead of calling out their name, the reader could tap another student on the shoulder.

  5. The activity continues this way, in the form of a round robin, until you reach the end.

Teaching support for an integrated classroom

Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
- Helping students paraphrase key parts of the text. Example: " . . . check the information you find critically" can be restated as "make sure the information is correct." - Encouraging students to put advanced vocabulary items on index cards for review.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Allow students to record their ideas orally or on Word using the screen reader.

- Conduct a knowledge share with your classmates. What do you know about already? What do you **not** know?
- Decide who is going to search for which information. It is good practice for two people to search for the same information and then share and contrast their results.
- Decide on keywords for searches about the subtopics, as it is not a good idea to use full sentences when searching.
- Share your results. Decide how to select and organize the information, and then how to organize it for presentation.

Remember In Grade 4, Theme 2, lesson 5, we looked at keywords. Sometimes you might have to try different keywords in your online searches. When you do, consider using synonyms of the words. Use the same strategies above, but with different words with similar meanings.

Explore

Choose someone in your community that you would like to mentor. It could be a friend, a family member, or a younger person that looks up to you.

- Choose a topic to help them with. Write it down. You'll be researching the topic in Learn by Doing. Some topic ideas: Ancient Egyptian inventions, local community concerns, recycling choices/challenges, Egyptians and their diets/nutrition, search for other water sources, pollution problems and solutions, etc.
- Choose specific aspects and keywords of that topic to concentrate on when researching the topic. Write them down.



Review

1. How can planning beforehand help you do better searches?
2. Your teacher asks you to research the origins of traditional Egyptian songs. You type the following: "What are some traditional Egyptian songs and where did they come from?". You realize quickly that you need to narrow your search. Provide an example of how you could narrow it.

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Boolean operators (or search modifiers) are words that can be used as part of an online search. They often help in getting more precise results. Here is a short list of the most common Boolean operators:

Boolean operators	Explanation	Examples
AND	All keywords are included in the search.	Tut's tomb AND replica
OR	Any of your keywords are included in the search.	Tut's tomb OR Tutankhamun's tomb
NOT	Words following NOT are not included.	Nefertiti NOT Nefertari

TEACHING TIP

Add that students can include the type of information they want to find, e.g., an image, an article, a graph, a diagram. So if they are looking for an illustration of King Tut's tomb to use for a replica, a good search term might be: Tut AND tomb AND diagram.

HOME-SCHOOL CONNECTION

Academic values: Curiosity

Encourage students to conduct online searches at home with family members. They can search for people, activities, and information that is of interest to the whole family. They might want to look up fun things to do, for example. Invite volunteers to share what they learned with the class.

EXPLORE

AIM: To explore ideas and information that were introduced through the reading passage in **Learn**.

TIME: 6–8 minutes

- Follow the steps for **Routine 24: Plan and Share**.
  1. Read aloud the text in Learn. Distribute writing paper so that students can begin planning for their research project.
  2. Have students take notes in response to the prompts in **Explore**. Circulate and provide assistance as necessary.
  3. When students are finished, form groups and have students share their notes with the rest of their group. Encourage group members to give each other feedback. **Say** *If there is anything you don't understand, ask your group member to explain it again.*

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: To be completed at home

- Follow the steps for **Routine 26: Family Test**.
  1. Draw students' attention to Review.
  2. Say *You're going to ask a family member to test you on your knowledge.*
  3. Say *First, you are going to copy some questions onto a piece of paper. Later on today, someone in your family will ask you the questions. Tell them everything you know!*
  4. Have students copy the review questions to take home so that family members can test them.
  5. When students return to class, follow up by asking them: *Based on what you've learned so far, has your answer to the Engage questions changed? How?*

SELF-ASSESS

AIM: Help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 29: Promise!**
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the **I can...** boxes in **Objectives**.
  2. **Say** *Think about how well you can do each objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to... .*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g., *I'm going to... take notes during class, ask the teacher when I don't understand, participate in discussions, listen when others speak, etc.*

  5. Praise students for their efforts.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Allowing students to work collaboratively with classmates. - Helping students arrive at a topic that is suitable for them.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Allow students to record their ideas orally or on Word using the screen reader.



RESEARCH

AIM: To help students plan an outline for a report on a topic that they chose during **Explore**.

TIME: 6–8 minutes

1 Search and organize

1. Read aloud the prompts and tell students they will follow the directions in preparing a report about the idea they chose during **Explore**.
2. If possible, display samples that show how you would like students to evaluate and organize their resources. You might also display an outline for a report that can serve as a model for students in writing their own outlines.
3. Circulate as students work and provide assistance as necessary.
4. When students are finished, form groups and have group members share their outlines with each other. Encourage group members to give each other feedback.

AIM: To write a report based on the outline that students created in the previous activity.

TIME: Variable

2 Write what you learned

1. Read the directions aloud and explain to students that they should use the outlines they created to write a report. Provide guidelines to them that convey appropriate expectations about the format and length. It is suggested that students write their name, date, and class in the upper left, and that the title is centered at the top of the page. A length of about 250–300 words is recommended, though you might want to adjust that requirement, depending on the time available.
2. Have students draft their reports. When they are finished, have them check for spelling errors and grammar mistakes.
3. When they are finished checking, form pairs of students. Have partners read their reports aloud to each other.



Information search strategies

Research

1 Search and organize

Use your notes from Explore to research your topic of interest. Be sure to search for images in addition to text.

1. Evaluate your search results and choose what you feel is relevant and reliable. What sources did you choose? Include them here, with a short description:

____

____

____

____

____

____

2. Organize your sources. Then explain the method you used to organize them.

____

____

____

____

____

____

3. Write notes or an outline to prepare to write a report of your findings.

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2 Write what you learned

Write a report using the information you found online.

ICT and Me

3 Think and answer

1. What strategies did you use during your online search?

2. What strategies did you use when it came to evaluating/choosing sources?

3. What strategies did you use when it came to organizing your information?

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ICT AND ME

AIM: To help students reflect on what they have learned in the course of writing their reports.

TIME: 3–4 minutes

3 Think and answer

1. Tell students that they will now have an opportunity to reflect on the process they went through in writing their reports.
2. Read the directions aloud. Have students work independently in writing responses to the questions on the writing lines provided.
3. When students are finished, invite volunteers to share what they learned. Ask *What might you do differently the next time you write a report?*

EXTENSION ACTIVITIES

1. Arrange for students to read their papers aloud in other classrooms. Alternatively, you could organize a "conference" at the resource center in which students can present their findings to an audience.
2. Collate students' reports and bind them together with a cover. Keep the volume containing all the reports in the classroom so that students can read each other's work during free time.

LESSON 8 pp. 38–39

Sharing information

OBJECTIVES

- Discuss when I might choose to post information on an intranet.
- Discuss when I might choose to post information on the internet.
- Explain how to share info on spreadsheets.

LIFE SKILLS

- Learning to live together: communication
- Learning to do: decision-making
- Learning to know: critical thinking

VALUES

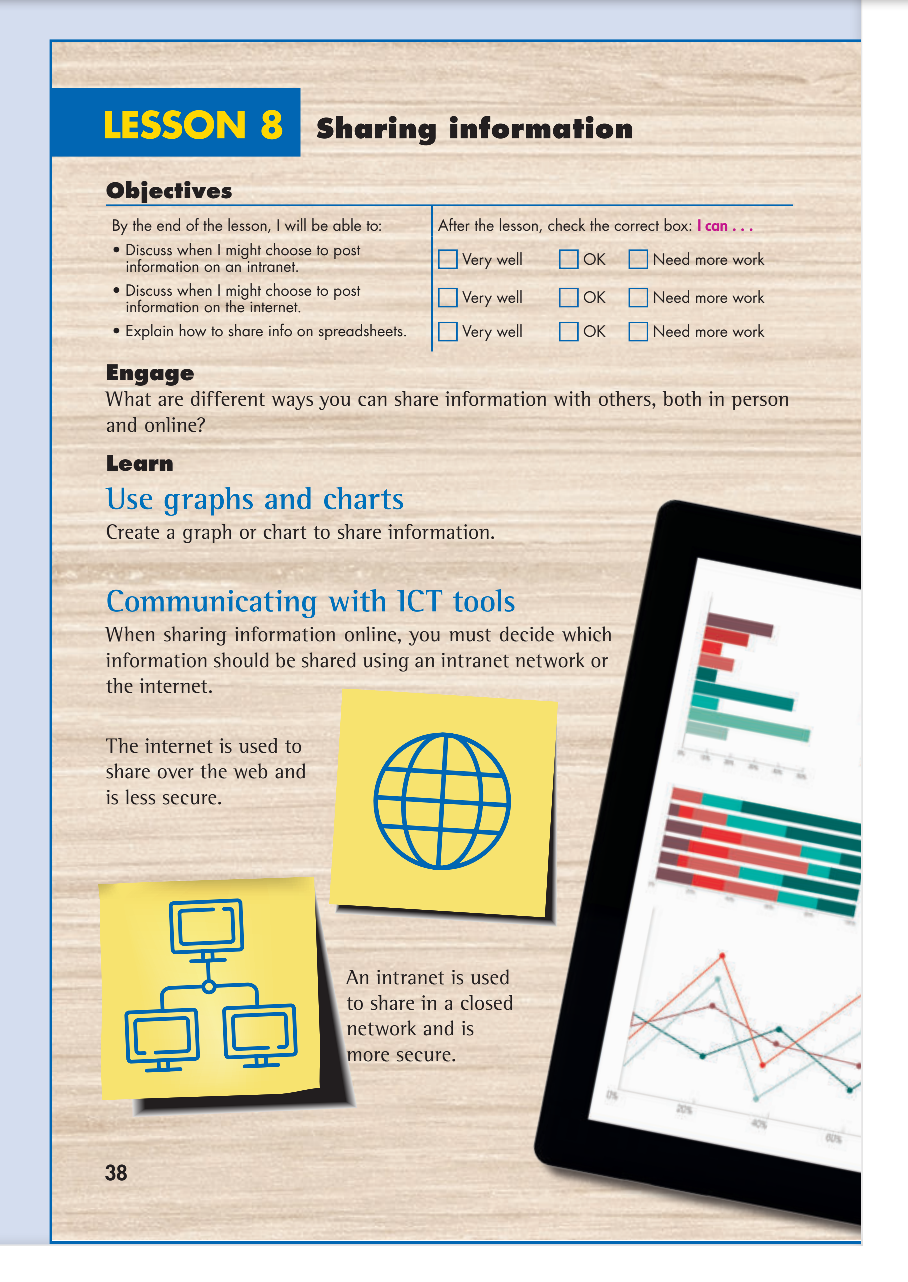
- Work values: perseverance
- Personal values: independence
- Citizenship values: participate in scholarly research

ISSUES AND CHALLENGES

- Globalization issues: technological awareness

MATERIALS NEEDED

- Classroom computers
- Spreadsheet software (Be the Expert)
- Poster board, markers, and other art supplies or PowerPoint (Life Skills)



OBJECTIVES

AIM: To help students exchange information they already know in connection with the objectives.

TIME: 4–6 minutes

- Follow the steps for **Routine 4: Information, Please!**
  1. Tell students that they will be paired up with a classmate, and that they will then share what they know about the objectives.
  2. Form pairs of students, then read aloud the objectives. Ask partners to take turns sharing what they already know about intranets, the internet, and spreadsheets. **Ask** *How are intranets similar to the internet? How are they different? What's a spreadsheet and how to you use it?*
  3. Give partners a few minutes to share their ideas with each other.
  4. Tell students that time is up. Invite partners to summarize what they talked about. Use their comments to lead a class discussion about computer technology and computer networks.

ENGAGE

AIM: To enable students to participate confidently and collaboratively in a class discussion that leads to the objectives of the lesson.

TIME: 2–5 minutes

- Follow the steps for **Routine 6: Think–Pair–Share**.
  1. Draw students' attention to **Engage**.
  2. **Say** *I'm going to ask you a question. Don't say anything! Just think about it quietly.*
  3. Read aloud the question. Let students think silently about some possible answers. They may make simple notes if they wish.
  4. After a minute, **say** *Now sit shoulder to shoulder with a classmate and share ideas. You can make notes, but keep them very short.*
  5. Check that students are comparing their ideas with a classmate.
  6. **Say** *I'm going to ask the question again. This time, put up your hand to answer.*
  7. Read the question aloud again. Call on students with their hands up and have them share their ideas with the class. They can refer to their notes, but shouldn't read whole sentences aloud.

Optional: To encourage more discussion, ask follow-up questions *<Name>, what do you think? <Name>, why do you think that? Can you give an example?* etc.

LEARN

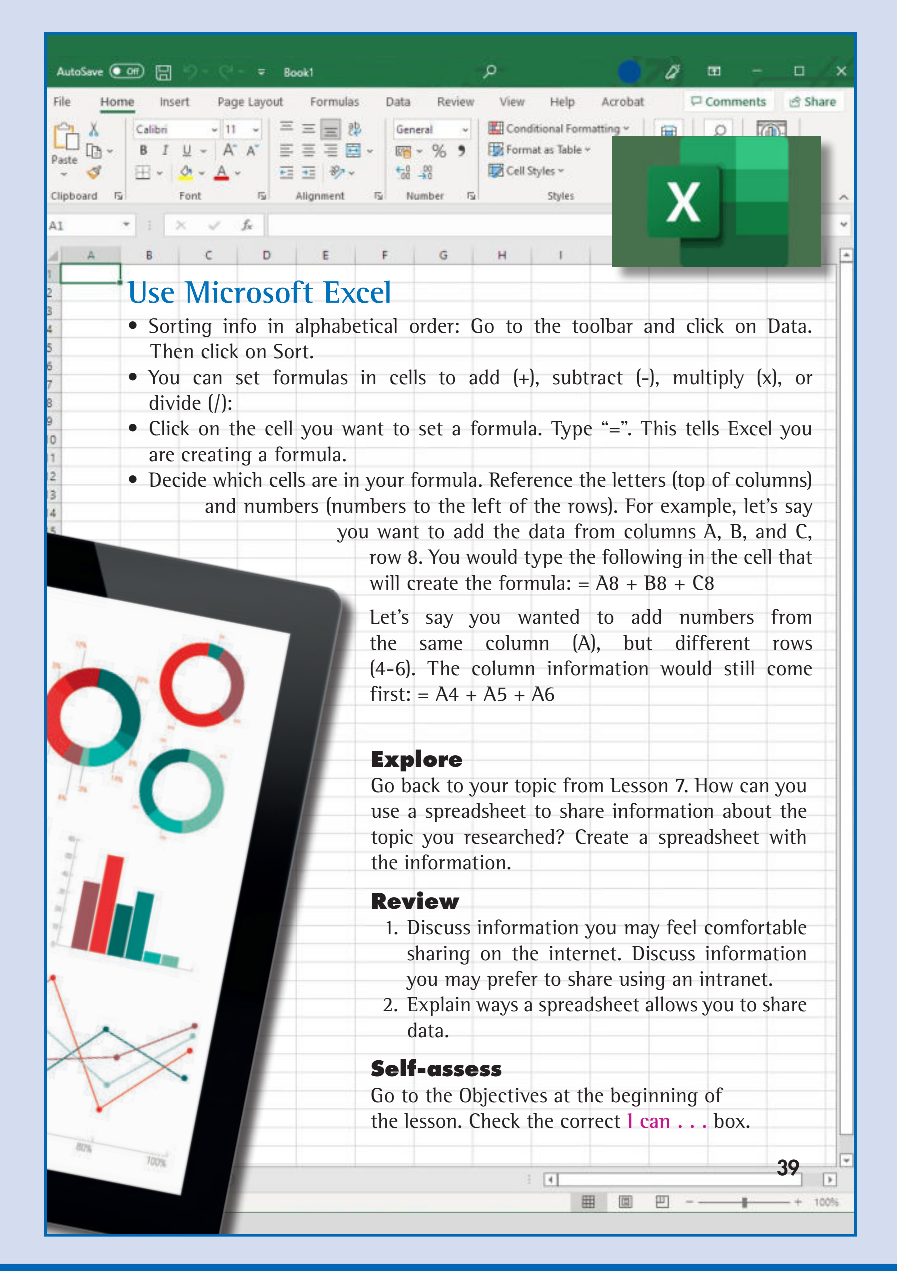
AIM: To help students practice the skill of using ICT tools to share information.

TIME: 15–20 minutes

- Follow the steps for **Routine 16: Buddy Reading**.
  1. Form pairs. Students sit with a classmate, preferably with a similar reading ability, shoulder to shoulder.
  2. **Say** *You're Reading Buddies. That means you're reading friends, so your job is to help each other. You're going to take turns reading the text to each other. If you're reading, remember you can ask for support from your Reading Buddy, or even ask them to take over for a while. I'll be moving around the classroom if you need me.*
  3. Point to the first and second paragraphs of the text. Tell students to take turns reading each bit of text aloud to their partner.
  4. Then, ask students to read the section "Use Microsoft Excel" to each other. They should read one bullet point and then let their partner read the next one. When they are finished, switch roles, so the students read the text again, but this time reading the "other" bullet points.
  4. While Reading Buddies work together, circulate through the room and provide help with pronunciation and comprehension as necessary.
  5. To speed up the lesson, shout My turn! and read a section aloud. Then hand over the next section to the buddies. Continue alternating like this, so that they receive practice listening to you, as well as to each other. You may wish to use My turn! on the section "Use Microsoft Excel" because of the formulas.

Teaching support for an integrated classroom

Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
- Helping students to focus on the big ideas, as opposed to the details. Ask them what's most important to remember. - Encouraging students to highlight words and phrases that show the main idea.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	



BE THE EXPERT

Google Docs is a free, web-based software suite. Once you have a Google account, just type google.docs.com into your browser. From there, you can click on the menu in the upper-left corner, where you can choose to make a shared document, spreadsheet, slide show, or a form (e.g., a survery or questionnaire). After creating a document, click on the menu in the upper-right corner and choose "Copy link" or "Add collaborators." You can then send this link to students via WhatsApp, a social media account, or email. Once students have the link they can add or modify the document. For more information, search for "how to use google docs."

TEACHING TIP

Give students a tutorial on how to create and use a spreadsheet (perhaps for the results of a survey). You can use Google Docs, or spreadsheet software that is available to your class. Invite students to share what they know about spreadsheets as well.

HOME–SCHOOL CONNECTION

Issues and challenges: Citizenship issues: participate in scholarly research

With the class, create a list of questions to be used as part of a home survey. Be sensitive with questions to avoid revealing personal details or indicate the family's socio-economic standing, e.g., the number of rooms in their house. Possible questions include: number or kinds of pets, favorite shows, favorite meals. Send the survey home with students and when they return, collate the information and enter it into the spreadsheet.

EXPLORE

AIM: To explore ideas and information that were introduced through the reading passage in **Learn**.

TIME: 5–7 minutes

- Follow the steps for **Routine 22: Think, Talk, and Create**.
  1. Read aloud the directions. **Say** *Now you will have an opportunity to think and talk about your topics from Lesson 7. Then you will create a spreadsheet showing the information that you gathered for that topic.*
  2. Form pairs of students. Have them read and think about the Explore text. They can then share their ideas in a short discussion. Afterwards, have students independently work on a spreadsheet that shows the information they gathered for their topic in Lesson 7.
  3. When they are finished, partners can reconvene and share their work with each other.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

- Follow the steps for **Routine 25: Test a Partner.**
  1. Draw students' attention to **Review**. Explain that students are going to test each other on what they've learned this lesson.
  2. Say *Sit with a classmate, knee to knee. Discuss the questions in your book.*
  3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well.
  4. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop; encourage critical thinking.

TIME: To be completed at home

- Follow the steps for **Routine 28: 3–2–1**.
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the **I can…** boxes in **Objectives**.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a short list for me:*
     - *three things you found interesting in this lesson*
     - *two questions you still have for me*
     - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

  5. In the next lesson, clarify any questions that students still have.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Identify the signs and symbols in the lesson (+, -, =, ×, /, ...) in the Students book or by writing them on cards or on the board. - Apply the demonstration strategy when using Microsoft Excel.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Reading aloud the results of the survery, e.g., *There are 14 students who have cats as pets.*

Learn by doing LESSON 8 pp. 40–41

COMPREHENSION

AIM: To give students opportunities to practice skills related to the creation and analysis of spreadsheets.

TIME: 4–6 minutes

1 Read, think, and write

1. Tell students that the prompts in this activity will give them an opportunity to practice working with spreadsheets.
2. Look at the first prompt with students. Ask them to think about it for a minute, and then call on volunteers to offer suggestions. **Confirm** *To subtract a number from any cell, just click on that cell and then type an equal sign (=) to start a formula. After the equal sign, input the data that you want to subtract plus a minus sign (–) and then hit Return.* Have students write the formula in the space provided (=A6–C6–E6).
3. Direct students' attention to the second prompt and brainstorm situations in which they might want to use a bar graph or chart. Examples include: results of a survey or questionnaire, information comparing temperature changes over several days, percentages of people within certain age ranges, etc. Have students write at least one idea in the space provided.
4. Move on to the third prompt and help students think of information that would best be shared on a school intranet (e.g., private information) and information that is suited to the internet (e.g., facts and statistics). Have students write an example of each in the space provided.

LIFE SKILLS

AIM: To begin planning for a presentation that will be given to the class.

TIME: 4–6 minutes

2 Prepare to share

1. Read the directions aloud and ask students to reflect on the best way of sharing the information that they gathered in the report from Lesson 7 and Lesson 8's Explore.
2. Have students take notes in the space provided.
3. When they are finished, call on volunteers to share their ideas with the class.
4. Give corrective feedback as appropriate. If a student's ideas are not feasible or compromise their own private information or that of a family member, for example, you can use it as an opportunity to remind the class of safety measures.



Sharing information

Comprehension

1 Read, think, and write

1. You want to subtract data from Columns A, C, and E, row 6. Write the formula you would use.

____

2. Give an example of information that you might set as a chart or graph.

____

3. Give an example of information that might be shared on a school intranet network. Give an example of information that might be shared on a school's webpage.

____
____
____
____

Life Skills

2 Prepare to share

1. Review the following:
   - Your report from Lesson 7
   - Your spreadsheet from Lesson 8's Explore
2. Decide how you will share your information with the person you chose. Circle your choice. Then explain your choice.

   intranet   internet

____
____
____

3. What software / ICT tools will you use to share your information?

____
____
____

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3 Create your presentation

Using the information you've organized, create your presentation using the software of your choice.

4 Share your presentation

Share your presentation with the person you chose, using the method you chose.

ICT and Me

5 Think and answer

Now write about your experience.

1. Did you come across any problems while researching your topic or creating your presentation? How did you troubleshoot / resolve your problems?

____

____

____

2. Explain how you used a spreadsheet to share information. What information did it provide?

____

____

____

3. Talk to the person you provided the information to. What did he/she find useful? What did he/she think could be clarified?

____

____

____

4. What did you think you did best? What might you do differently next time?

____

____

____

41

AIM: To organize and present the data in a spreadsheet to the class.

TIME: Variable

3 Create your presentation

1. Read the directions aloud. Explain to students that they are supposed to present the data in the spreadsheet they created to the class. They can do so through a PowerPoint slide show, a poster that can be displayed on the wall, or another medium of their choice.
2. Provide access to the materials that students will need in creating their presentations. Circulate as they work, providing assistance if necessary.
3. Tell students they might want to practice their presentation with a partner before giving it to their intended audience. Remind them to practice speaking at an appropriate volume, and to make eye contact with the audience as much as possible.

AIM: To share their findings in a formal presentation.

TIME: To be completed outside of class

4 Share your presentation

1. Tell students that they will now share their findings in a formal presentation.
2. Help students make arrangements so that they can give their presentations to the person they chose. If that person is a member of the community outside of school, they may have to give their presentations after school hours.
3. Remind students to take their slide shows, posters, spreadsheets, and notes to their presentation.

ICT AND ME

AIM: To help students reflect on the process they went through in planning, creating, and giving their presentations.

TIME: 3–5 minutes

5 Think and answer

1. Read aloud the directions. Explain that students now have an opportunity to reflect on the process they went through in planning, creating, and giving their presentations.
2. Have students work independently in providing written responses to each question.
3. When they are finished, have students look at their responses and reflect on what they might do differently next time.

EXTENSION ACTIVITIES

1. Invite students to give their presentations to the class and/or to neighboring classes as well.
2. Invite students to share their presentations with classmates on Google Docs or some other platform.

REVIEW Theme 1 pp. 42–43

VOCABULARY

AIM: To reinforce the acquisition of key vocabulary and concepts related to digital communication, networks, and filing systems.

TIME: 5–7 minutes

1 Write and compare

1. Read the directions aloud and then form pairs of students so that they can work out their answers together.
2. When pairs are finished, invite students to share their answers. Confirm or modify their responses as necessary. (Answers: **1. Computers are connected to a host or server through a computer network. Appliances and everyday objects can also be connected through the Internet of Things. 2. I have organized my files into files that are labelled Family, Friends, and Places.**)

REVIEW QUESTIONS

AIM: To review key concepts and information related to computer accessories, network communication, and spreadsheets.

TIME: 5–7 minutes

2 Read and answer

1. Read the directions aloud. Tell students that there may be more than one answer to the questions. Allow students to team up with a classmate so that they can work out their answers together.
2. When pairs are finished, invite students to share their answers. Provide feedback, confirming or modifying answers as necessary. (Suggested answers: **1. Fred uses Zoom and email to communicate with colleagues and mentors. 2. If you have too many applications open, your computer might slow down or it might even crash. 3. The World Wide Web is an example of a network. 4. One way to communicate through a network is to ask other users questions. You can also download information. 5. Following a process means that you perform a series of tasks in the correct order. 6. A keyboard, speakers, and a router are three examples of device accessories. 7. An example of a Boolean search term might be "Ramses" AND "Pharaoh." 8. A spreadsheet usually has large amounts of data, which include names, dates, and numbers.**)

REVIEW Theme 1

Vocabulary

1 Write and compare

Write a sentence for each set of words to explain the connection between them. Then compare your sentences with a partner.

1. networks and the Internet of Things

____

2. folder and file

____

Review Questions

2 Read and answer

1. How does Fred Hiebert share information?

____

2. What might happen if you have too many applications open?

____

3. Give an example of a computer network.

____

4. Share a way you can use a computer network to communicate.

____

5. What does it mean to follow a process?

____

6. Name three device accessories.

____

7. Write an example of a search entry using the Boolean search method.

____

8. What information might be included on a spreadsheet?

____

____

____

42

Critical Thinking

3 Think and answer

1. Explain what it means to troubleshoot an issue and provide an example.

2. What type of information might a school put on its intranet? What type of information might a school put on the internet?

3. How might someone use a spreadsheet in their PowerPoint presentation?

Essential Question

4 Think and complete

After studying this theme, I know that I can use ICT tools efficiently to communicate effectively because

Activity

5 Research, create, and show

Create your own exhibition about a historical site in Egypt.
Find photographs or screenshots or draw pictures of it. Then make labels and write captions for your photographs and screenshots and illustrations.
Include the following:

- name of the historical site you chose
- location of the historical site
- three interesting facts about the site
- special features of the site
- how/when people can visit the site
- Invite your classmates to view your exhibition.

43

CRITICAL THINKING

AIM: To review key concepts and information related to the troubleshooting of computer-related problems, intranets, and spreadsheets.

TIME: 5–7 minutes

3 Think and answer

1. Read aloud the questions and give students time to work out their responses independently. Tell students that there are no right or wrong answers. The questions are asking them to reflect on their own experience and thought processes.
2. When students are finished, use the questions as a way of reviewing key concepts. Invite students to share their responses to each question, and provide feedback as appropriate. (Suggested answers: **1. Troubleshooting is when you check different parts or components of a computer to find and fix a problem. 2. A school might include the names of teachers, students, and different classrooms or clubs on its intranet; it might put the school prospectus on the internet. 3. A person could use a spreadsheet in a PowerPoint presentation to show the results of a survey they had carried out.**)

ESSENTIAL QUESTION

AIM: to reflect on the Essential Question and respond to it in writing.

TIME: 7–10 minutes

4 Think and complete

1. Read aloud the directions. Have students work independently in completing the sentence frame.
2. When students are finished, form pairs or small groups. Encourage group members to share their completed sentences with the group.
3. After the group discussions, invite a few students to share their sentences with the class.

ACTIVITY

AIM: To reflect on the Essential Question and respond to the question in writing.

TIME: Variable

5 Research, create, and show

1. Read aloud the directions. Help students prepare for the activity by brainstorming different places in Egypt that they would like to learn more about and writing a list on the board.
2. Tell students: *Choose one of the places from the list that you think is the most interesting. Then make a presentation that includes the name of the site, its location, three interesting facts about it, other special features, and how people can visit it.*
3. Have students take turns using classroom computers to create their presentations, or provide art supplies so that students can create posters by hand.
4. Give students the opportunity to show their presentations to the class.

Pacing Guide for Theme 2

Lessons	Activities	Recommended timings	Lessons	Activities	Recommended timings
Theme opener	Theme opener	6–8 minutes	**Lesson 5 and LBD**	5.1 Objectives 5.1 Engage 5.1 Learn 5.1 Explore 5.1 Review 5.1 Self–assess 5.2 Learn by doing	2–3 minutes 2–5 minutes 15–20 minutes 5–10 minutes 4–6 minutes At home 23–31 minutes
Lesson 1 Explorer in Action	1.1 Objectives 1.1 Engage 1.1 Learn 1.1 Video 1.1 Explore 1.1 Review 1.1 Self–assess 1.2 Learn by doing	5 minutes 2–5 minutes 15–20 minutes 10 minutes 5–10 minutes 5–10 minutes 31–42 minutes	**Lesson 6 and LBD**	6.1 Objectives 6.1 Engage 6.1 Learn 6.1 Explore 6.1 Review 6.1 Self–assess 6.2 Learn by doing	4–6 minutes 2–5 minutes 2–5 minutes 8–10 minutes 5–10 minutes At home 36–54 minutes
Lesson 2 and LBD	2.1 Objectives 2.1 Engage 2.1 Learn 2.1 Explore 2.1 Review 2.1 Self–assess 2.2 Learn by doing	2–3 minutes 15–20 minutes 10–12 minutes 5–10 minutes 5–10 minutes At home 33–43 minutes	**Lesson 7 and LBD**	7.1 Objectives 7.1 Engage 7.1 Learn 7.1 Explore 7.1 Review 7.1 Self–assess 7.2 Learn by doing	2–3 minutes 2–5 minutes 15–20 minutes 10 minutes At home At home 31–44 minutes
Lesson 3 and LBD	3.1 Objectives 3.1 Engage 3.1 Learn 3.1 Explore 3.1 Review 3.1 Self–assess 3.2 Learn by doing	2–3 minutes 5–7 minutes 15–20 minutes 8–10 minutes At home At home 25–32 minutes	**Lesson 8 and LBD**	8.1 Objectives 8.1 Engage 8.1 Learn 8.1 Explore 8.1 Review 8.1 Self–assess 8.2 Learn by doing	2–3 minutes 3–5 minutes 15 minutes 7–10 minutes 4–6 minutes At home 29–38 minutes
Lesson 4 and LBD	4.1 Objectives 4.1 Engage 4.1 Learn 4.1 Explore 4.1 Review 4.1 Self–assess 4.2 Learn by doing	5 minutes 2–5 minutes 15–20 minutes 10 minutes 5–10 minutes At home 22–28 minutes	**Review**	R.1 Vocabulary R.1 Review Questions R.1 Critical Thinking R.1 Essential Question R.1 Activity	8 minutes 8 minutes 8 minutes 8 minutes 12 minutes



THEME 2 pp. 44–45

Digital safety and security precautions

ESSENTIAL QUESTION

How do we keep ourselves and our data safe and secure when using ICT tools?

AIM: To encourage students to think about what they already know about data security, and to introduce the theme.

TIME: 4–5 minutes

- On the board, write *safe and secure* and invite students to share what they understand by it. Encourage them to give examples of being safe, e.g., locking doors at home, looking left and right before crossing the road, feeling protected by parents.
- Read the Essential Question with the class. Ask them to suggest what being safe and secure online means, and ask them to share their ideas about how we can make sure we are safe online.
- Tell the class that this unit will help them to answer this essential question.
- Look at the photo with the class. Ask what they can see, and how they think it is related to the essential question.
- Elicit all reasonable responses.

SPOTLIGHT on Theme 2

AIM: To enable students to learn about how to stay safe online.

TIME: 2–3 minutes

Ask students to work in pairs to read the Spotlight text to find out more about staying safe when using the internet.

- Say *We are going to learn about some online rules and laws*. Ask the class to suggest ideas about online rules and laws. Write reasonable ideas on the board.

OPTIONAL: Have students write their ideas in their notebook to check their predictions at the end of the theme.

LESSON 1 pp. 46–47

EXPLORER IN ACTION

OBJECTIVES

- Explain the importance of copyright protection.
- Plan a photography expedition.
- Identify some technological problems and how to solve them.

LIFE SKILLS

- Learning to do: decision-making

VALUES

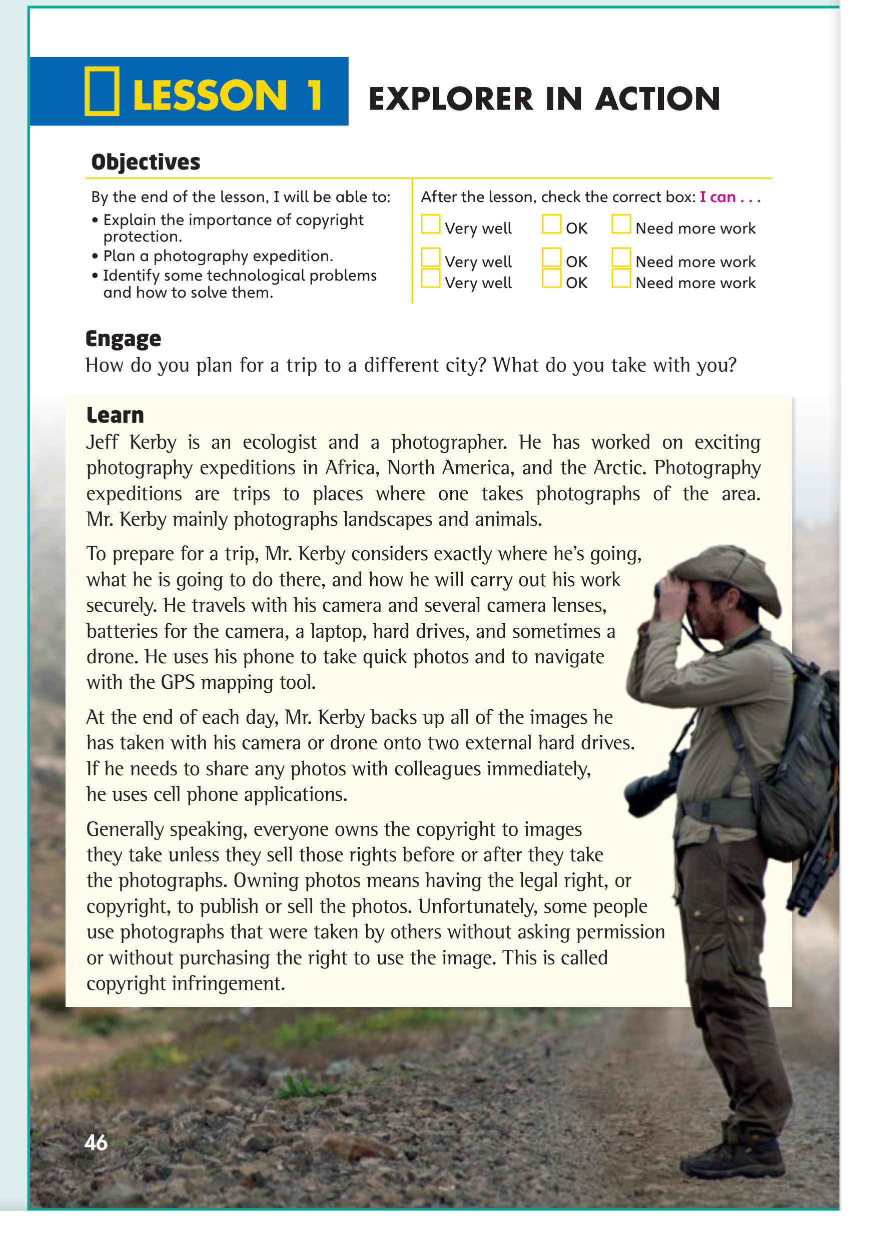
- Academic values: appreciation of technology

ISSUES AND CHALLENGES

- Globalization issues: technological awareness

MATERIALS NEEDED

- Poster paper or whiteboard
- Markers (Engage)



LESSON 1 EXPLORER IN ACTION

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: I can . . .		
• Explain the importance of copyright protection.	Very well	OK	Need more work
• Plan a photography expedition.	Very well	OK	Need more work
• Identify some technological problems and how to solve them.	Very well	OK	Need more work

Engage

How do you plan for a trip to a different city? What do you take with you?

Learn

Jeff Kerby is an ecologist and a photographer. He has worked on exciting photography expeditions in Africa, North America, and the Arctic. Photography expeditions are trips to places where one takes photographs of the area. Mr. Kerby mainly photographs landscapes and animals.

To prepare for a trip, Mr. Kerby considers exactly where he's going, what he is going to do there, and how he will carry out his work securely. He travels with his camera and several camera lenses, batteries for the camera, a laptop, hard drives, and sometimes a drone. He uses his phone to take quick photos and to navigate with the GPS mapping tool.

At the end of each day, Mr. Kerby backs up all of the images he has taken with his camera or drone onto two external hard drives. If he needs to share any photos with colleagues immediately, he uses cell phone applications.

Generally speaking, everyone owns the copyright to images they take unless they sell those rights before or after they take the photographs. Owning photos means having the legal right, or copyright, to publish or sell the photos. Unfortunately, some people use photographs that were taken by others without asking permission or without purchasing the right to use the image. This is called copyright infringement.

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OBJECTIVES

AIM: To help students activate prior knowledge related to the lesson content.

TIME: 5 minutes

- Follow the steps for **Routine 5: What do I already know?**
  1. Draw students' attention to the Lesson objectives. **Say** *Take a sheet of paper. Make a chart with three columns. I am going to read out the objectives. For each objective, write some notes in the column in the chart of what you already know about this topic.*
  2. Read the objectives aloud to the class. Pause for 20 to 30 seconds between each objective.
  3. Put students into small groups. **Say** *Share what you know about each objective.*
  4. Then have a class discussion. Ask students to share their ideas about each objective.

OPTIONAL: Use the words as starting points to have students clarify their thoughts and ideas. **Ask** *If you don't know anything about an objective, what do you want to find out?*

ENGAGE

AIM: To enable students to participate confidently and collaboratively in a class discussion that leads to the objectives of the lesson.

TIME: 2–5 minutes

- Follow the steps for **Routine 6: Think–Pair–Share**
  1. Draw students' attention to **Engage**.
  2. **Say** *I'm going to ask you a question. Don't say anything! Just think about it quietly.*
  3. Read aloud the question. Let students think silently about some possible answers. They may take simple notes if they wish.
  4. After a minute, **say** *Now sit shoulder to shoulder with a classmate and share ideas. You can take notes, but keep them very short.*
  5. Check that students are comparing their ideas with a classmate.
  6. **Say** *Now I'm going to ask you another question. Repeat steps 2 to 5.*
  7. **Say** *I'm going to ask the questions again. This time, put up your hand to answer.*
  8. Read the questions aloud again. Call on students with their hands up and have them share their ideas with the class. They can refer to their notes, but shouldn't read whole sentences aloud.

OPTIONAL: Work with the class to write a list of essential items to take on a trip to another city.

LEARN

AIM: To enable students to read text in a way that maintains interest.

TIME: 15–20 minutes

- Follow the steps for **Routine 15: Popcorn Reading**.
  1. **Say** *We're going to try Popcorn Reading now. I'll ask a student to read aloud. When I say "Popcorn," that student should stop, look around, quickly choose the next person to read and say their name.*
  2. Remind the class *Remember that you must choose a NEW person; don't choose the person who just read! And stay alert because you could be called any time!*
  3. Assign the first person to read aloud. The other students read along silently.
  4. Call "Popcorn" when the reader reaches a logical point in the text (e.g., the end of a paragraph or idea). That reader shouts the name of the next person to read.

OPTIONAL: Instead of calling out their name, the reader could tap another student on the shoulder.

  5. The activity continues this way, in the form of a Round Robin, until you reach the end.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Summarize the text about the scientist Jeff Kerby, keep only the main and important information, and write them in short and simple sentences on the board. Highlight them in the Students book for students to be able to acquire them during the lesson. - Determine the vocabulary in the lesson (GPS, Hard drive, Copyright) in the Students book.						

Photographers can protect their work from copyright infringement in several ways. They might place a watermark on their photos or add copyright information, such as their name, to the metadata of each photo. Mr. Kerby ensures his work is protected by sharing his high-resolution photos only with people he trusts.

Otherwise, he shares low-resolution photos that won't look good if printed or uploaded to a website. He also uses reverse image searches to find out if any of his photos are being used without his permission.

Copyright infringement is against the law. Article 69 in the 2014 Egyptian constitution confirms that the state protects all types of intellectual property in all fields through a specialized body that defends these rights. Many Egyptian laws protecting copyright have been written based on this article.



Video
Watch the video about Jeff Kerby. What technologies are most useful to him on his expeditions? What does he do to prevent technology fails?

Explore
We take hundreds of photos every year and store them on our smart phones and on our computers. Understanding how different technologies work can prevent possible problems. How important is it to back up your photos? Discuss with your classmates.

Review
1. A friend likes a photo he found on the internet and wants to share it. What advice would you give him? How would you explain copyright?

Self-assess
Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Reverse image searches usually involve pasting the hyperlink to an image or uploading an image into a specific website, which then searches millions of websites to find the same image. As well helping photographers keep control of the rights to publish their photos, reverse image searching can also help people find out if their photo is being used for fraudulent purposes or to check the original source of an image so you can credit the correct person if you use it on a personal blog, etc.

TEACHING TIP

When working with videos in the classroom, consider splitting the viewing into chunks. Pause the video at certain points and ask comprehension checking questions to ensure that students are following the content.

HOME-SCHOOL CONNECTION

Ask students to search for examples of Mr. Kerby's photos online, with the help from a family member. Have them choose their favorite photo and find out if it is being used with Mr. Kerby's permission. They can bring a print-out of their favorite photo to the next class and describe it to the class, including saying why they like it.

VIDEO

AIM: To learn more about Mr. Kerby's work as an ecologist and photographer.

TIME: 10 minutes

- Follow the steps for **Routine 30: Preview, View, Review**.
  1. **Say** *You are going to watch a video about Jeff Kerby. What do you know about him so far?*
  2. Encourage students to answer with as much detail as they can.
  3. Read aloud the questions: *What technologies are most useful to him on his expeditions? What does he do to prevent technology fails?*
  4. Play the video once or twice.
  5. Form pairs of students and have them discuss their answers to the questions.

(Suggested answers: **Digital camera, laptop, mobile phone, GPS, maps he has downloaded, and drone. Takes spare batteries, backs up all data onto two seperate portable drives. Shares important photos immediately using mobile apps.**)

OPTIONAL: Ask students additional questions: *What did you find surprising about the video? What did you learn that you didn't know before?*

EXPLORE

AIM: To discuss and learn about how to avoid problems when using different technologies.

TIME: 5–10 minutes

- Follow the steps for **Routine 21: The 2 to 4 Discussion**.
  1. Introduce the topic. **Say** *Now we are going to think about strategies that can help us become successful digital citizens.*
  2. Read the text aloud, and then discuss the questions at the end of the paragraph. **Say** *Mr. Kerby backs up all his photos by using portable hard drives. In this way, his photos stay safe in case something happens to his camera or drone.*
  3. Students discuss the questions in pairs and then in groups of four.
  4. Go around the classroom and listen to the pairs/groups while they are talking. Give help, if needed. Make sure students are reviewing some previous knowledge.
  5. When groups are finished, invite them to share why it is important to back up our files. Write their ideas on the board.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

- Follow the steps for **Routine 25: Test a Partner**.
  1. Draw students' attention to **Review**. Explain that students are going to test each other on what they've learned this lesson.
  2. **Say** *Sit with a classmate, knee to knee. Discuss the questions in your book.*
  3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well.
  4. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop their skills.

TIME: To be completed at home

- Follow the steps for **Routine 29: Promise!**
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to… .*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g.: ***I'm going to… take notes during class, ask the teacher when I don't understand, participate in discussions, listen when others speak, etc.***

5. Praise students for their efforts.

<table>
<tr><th colspan="7">Teaching support for an integrated classroom</th></tr>
<tr><th>Intellectual disability and slow learning</th><th>Autism</th><th>Hearing impairment</th><th>Attention deficit hyperactivity disorder</th><th>Learning disability</th><th>Motor disability and cerebral palsy</th><th>Blind and weak sighted</th></tr>
<tr><td colspan="5">- Playing the video about Jeff Kerby by sectioning it and playing one section at a time, commenting on it and deducing its main idea, and then moving on to the rest of the sections and doing the same.
- Facing hearing impaired students while commenting on the video.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td>Describing the content of the video to the blind.</td></tr>
</table>

Learn by doing LESSON 1 pp. 48–49

CREATIVE PLANNING

AIM: To prepare and plan for a photography expedition.

TIME: 3–5 minutes

1 Plan a photography expedition. Think and answer.
   1. Read the directions and the questions aloud. Tell students that they are going to plan a photography expedition, just like Mr. Kerby. Make sure they understand that a photography expedition means that they will go somewhere else to take photos.
   2. Form groups and give students time to discuss the questions. Tell them to write their answers in their books.
   3. Invite groups to share their answers with the group.

OPTIONAL: Encourage students to give feedback on their classmates' ideas. For example, can they suggest better transportation to get to their chosen location? Can they suggest different essential items to take with them? etc.

RESEARCH

AIM: To research film cameras and digital cameras.

TIME: 10–15 minutes

2 Use the internet to research film cameras and digital cameras. Write your findings in the table.
   1. Read the directions aloud. Show pictures of a film camera and a digital camera, and ask students to say what the difference is between them.
   2. Remind students that they are planning a photography expedition. Say *Now you are going to research different cameras you could use to take your photos.*
   3. Ask students to look at the table and verify that they understand what to do.
   4. Have students do their research independently, and then form pairs and have students share their answers.
   5. Encourage students to write about their preferred camera types.

OPTIONAL: Take a class vote on which camera students would prefer to use. Ask them to raise their hands, and then call on a few students to give their reasons.

Learn by doing LESSON 1 EXPLORER IN ACTION

1 Creative planning

Plan a photography expedition. Think and answer.

1. When would you go? How would you get there? What would you take with you?

____
____
____
____
____

2. What technologies would you use on your expedition? What technological problems might you face? How would you solve them?

____
____
____
____
____

2 Research

Use the internet to research film cameras and digital cameras.
Write your findings in the table.

Camera type	Advantages	Disadvantages
Film camera		
Digital camera		
Which one do you prefer?		

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3 Comprehension

Read, think and answer

In Egypt, there are many laws to protect copyright. Law 82 of the year 2002 is the main Intellectual Property law. It focuses on the protection of copyright and manages a national copyright system. Copyright is protected by different government entities and non-governmental organizations such as the Egyptian Center of Information Technology and Intellectual Property Rights.

The Egyptian Ministry of Communications has hosted conferences focusing on copyright. In November 2008, there was a regional conference on "Intellectual Property Rights Enforcement in the Digital Age: Procedures and Practices". It was organized by various Egyptian entities and the World Intellectual Property Organization (WIPO).

1. Why is it important to have laws that protect copyright?
2. How do conferences help to protect copyright?
3. How can citizens help to protect copyright?

4 Think and answer about me

1. After the photo expedition, who would you share your photos with? How would you share them?

____

2. How would you protect your photos?

____

3. How would you use your photos? Would you publish or sell them?

____

COMPREHENSION

AIM: To help students learn and understand about copyright laws.

TIME: 10–12 minutes

3 Read, think, and answer.

1. Introduce the topic. **Say** *We are going to learn about copyright law*.
2. Read the text aloud, and then read aloud the questions below the paragraph.
3. Form pairs and have students answer the questions together.
4. Check the answers with the class.

OPTIONAL: Encourage critical thinking by asking additional questions: *What would happen if there weren't any copyright laws? How do you think photographers feel when someone doesn't give them credit for their photos?*

AIM: To reflect on their planned photography expeditions.

TIME: 8–10 minutes

4 Think and answer about me

1. Read aloud the directions and the questions. Verify that students understand what they are supposed to do.
2. Have students work individually to answer the questions. Walk around and monitor to help them as necessary.
3. When students have finished, form pairs so they can take turns sharing their answers.

EXTENSION ACTIVITIES

1. If possible, plan a photography expedition in your town or community. It could be to a nature spot, an historical part of town, etc. As a class, plan what students need to take on their expedition.
2. After the expedition, plan an exhibition for students to display and share their photos with the school and parents.

LESSON 2 pp. 50–51

Protecting ourselves and our information

OBJECTIVES

- Describe the importance of protecting personal information.
- Describe the importance of backing up data.
- Explain ways to protect personal information and data.

LIFE SKILLS

- Learning to be: communication

VALUES

- Personal values: independence

ISSUES AND CHALLENGES

- Citizenship issues: legal awareness

MATERIALS NEEDED

- Poster paper or whiteboard (Objectives)
- Markers (Engage)
- Pencils or highlighters (Learn)

LESSON 2 Protecting ourselves and our information

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Describe the importance of protecting personal information.	☐ Very well	☐ OK	☐ Need more work
• Describe the importance of backing up data.	☐ Very well	☐ OK	☐ Need more work
• Explain ways to protect personal information and data.	☐ Very well	☐ OK	☐ Need more work

Engage

Why is it important to protect the data on a computer or other device?

Learn

Protecting your personal data

Stolen data

Hackers use the internet to break into a computer system and steal personal information, such as your name, address, date of birth, and your passwords. This personal information is called Personally Identifiable Information (PII).

A hacker can use someone's email address and password to send a virus to all the email addresses in your email account. Hackers can also use an adult's bank account number to take money from that account.



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OBJECTIVES

AIM: To encourage students to take responsibility for their own learning needs and paths.

TIME: 2–3 minutes

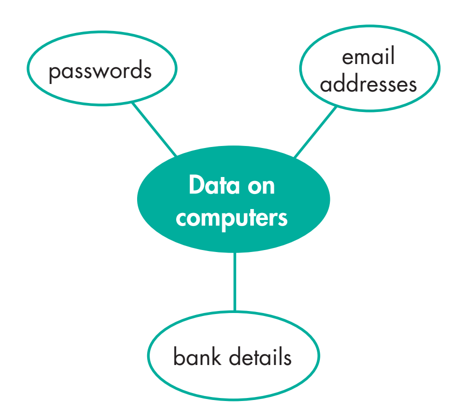
- Follow the steps for **Routine 1: Time to Explore!**
  1. Draw students' attention to the lesson topic. Say *This lesson, we're going to learn about protecting ourselves and our information online.*
  2. Read the objectives aloud to the class.
  3. Write on the board *Now's our chance to explore …* . To ensure that students think in detail about the objectives, write more actions directly below *explore*, e.g.: *think about, learn about, study, discuss, look at, investigate, consider, plan*.
  4. Give students a minute to look at the lesson and assess what they'll explore.
  5. Elicit answers from individual students, e.g.: **Now's our chance … to learn about kinds of personal data and to think about how to keep our personal data safe online, discuss how people steal or lose personal data, consider why is it important to keep our personal data safe, and talk about what might happen if someone steals our personal data or we lose it.**

ENGAGE

AIM: To help students achieve the lesson objectives by organizing ideas and information in a graphic organizer; engage students in a short discussion about protecting data on computers.

TIME: 15–20 minutes

- Follow the steps for **Routine 14: Mind-Mapping**.
  1. In the middle of the board or on poster paper, draw a mind map and write *Data on computers* in the middle circle.
  2. Ask the class for examples of data found on computers (and other devices) and add these to the mind map. Provide a few examples to help them get started:



OPTIONAL: Have students copy the mind map in their books or on note paper. They can add other types of data as they go through the theme.

  3. When you have completed the mind map, read the **Engage** question aloud: Why is it important to protect the data on a computer or other device? Ask the class to share their ideas in a class discussion. To help guide the discussion, refer students back to the mind map and ask them to think about what might happen if that data was stolen or lost.

OPTIONAL: Have students take short notes of their answers to the question in their books, or on note paper, to help them keep track of their ideas as they go through the theme.

LEARN

AIM: To take notes while reading to self-monitor comprehension.

TIME: 10–12 minutes

- Follow the steps for **Routine 13: Taking Notes**.
  1. **Say** *Taking notes while you read is a good way to make sure you are following the text. Look out for big ideas and words you don't understand. Use a pencil to draw a line under the most important ideas/words. Or you can circle them. Another way is to use a highlighter. If you don't understand something, look it up in a dictionary. You can also ask me if you need help. Then write the word's meaning in the margin.*
  2. Have students read the text and take notes as directed.
  3. When they are finished, remind students that taking notes while reading is a good skill to develop, but before doing so, they should make sure it is OK to write in the material provided to them.

OPTIONAL: Have students work in pairs after reading. They can compare the notes they took, discuss the main ideas, and check the meanings of new vocabulary.

<table>
<tr><th colspan="7">Teaching support for an integrated classroom</th></tr>
<tr><th>Intellectual disability and slow learning</th><th>Autism</th><th>Hearing impairment</th><th>Attention deficit hyperactivity disorder</th><th>Learning disability</th><th>Motor disability and cerebral palsy</th><th>Blind and weak sighted</th></tr>
<tr><td colspan="5">- Writing the abbreviation PII (personally identifiable information) on the board to be used as quick reference throughout the lesson.
Writing essential vocabulary (hacker, virus, anti-virus software, data storage device) on the board.
- Summarizing the stolen data section of the text on the board in a list of dos and don'ts.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td>Display orally, ways of protecting information.</td></tr>
</table>

There are many ways you can keep your PII safe. Limit the personal information you share online. Don't sign up for a website if it asks for too much personal information. Use different strong passwords that contain letters, numbers, and special signs, and are different for each website you sign up for, because if your password is discovered, a hacker will then have access to everything. Use anti-virus software on all of your devices, and update your devices regularly. The updates include changes that keep your data safe.

Lost files

You should also know how to protect the files that you create or store on a device. You need to protect these files from viruses, software problems, or human errors, such as dropping and breaking your laptop.

There are several ways to back up your data. Some apps and software programs back up data automatically. You can use a data-storage device that you attach to your computer, such as a flash drive or an external hard drive. This is called a hybrid backup. It is a safer way to back up and store files.



An **external hard disk** drive is one of the accessories that you can use to save your files securely, and backup copies of your files that are important and private to you to prevent the possibility of losing them on your device. The hard disk has more space than the Flash Memory, but it may also be used for the same purpose.

Explore

With a partner, make a list of the suggestions from the reading that protect data from being stolen. Check off the items you already do. Create a plan to start using the other ideas. Share your plan with your family.

Review

1. How might you be affected if you use weak passwords?
2. Do you know any adults who might not know about keeping PII safe? What additional examples of PII are important for them to know about?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

The internet has created many opportunities for sharing and getting information online; however, there are many cybercriminals who take advantage of this. They use personal data such as name, address, telephone number, and date of birth for phishing scams. This is when a criminal calls or emails someone and pretends to be from a reputable organization, such as a government entity, in order to trick the person into sending them money. These scams are easy to fall for because the criminal has personal information about the person they are calling, which makes them seem legitimate. Cybercriminals use banking information to duplicate bank and credit cards and make purchases online using another person's account. Even though children don't have their own bank accounts, many apps or games that children use and play require credit-card information. It is important for students to understand the importance of protecting their data so that they do not inadvertently give their parents' personal data to a cybercriminal.

TEACHING TIP

Consider sharing personal stories about a time that a cybercriminal tried to steal, or stole, your personal information or that of a family member/friend.

HOME-SCHOOL CONNECTION

Have students ask family members if they have anti-virus software on all their devices, not just their computers. Tell them to explain to their family members why it is important to have this software and what can happen if they don't have it.

EXPLORE

AIM: To meet the objectives while also linking into what students have learned so far.

TIME: 5–10 minutes

- Follow the steps for **Routine 21: The 2 to 4 Discussion**.
  1. Introduce the Explore topic. **Say** *You will find the information you need in the first section of the text, Stolen Data.*
  2. **Say** *Sit with a classmate, shoulder to shoulder. Make a list of the suggestions in the text.* (Answers: **Limit the information you share; don't sign up for websites that ask too much information; use different strong passwords for different websites; use anti-virus software on all your devices; update your devices regularly**). Check off the ones you already do. Then make a plan to start using the other ideas. Students discuss in pairs.
  3. **Say** *Now join another pair and form a group of four. Sit knee to knee and share your plans.* Students discuss their plans again, this time as a group of four.
  4. Go around the classroom and listen to the pairs/groups while they are talking. Give help, if needed. Make sure students are reviewing what they have learned.
  5. Elicit some answers from the class.

OPTIONAL: Encourage collaboration by telling students to make comments on their classmates' plans. **Ask** *Can you suggest any improvements? Did you like anything about your classmates' plans that you would like to add to yours?*

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

- Follow the steps for **Routine 25: Test a Partner**.
  1. Draw students' attention to **Review**. Explain that students are going to test each other on what they've learned this lesson.
  2. **Say** *Sit with a classmate, knee to knee. Discuss the questions in your book.*
  3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well.
  4. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop their skills; encourage critical thinking.

TIME: To be completed at home

- Follow the steps for **Routine 28: 3-2-1**.
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a short list for me:*
     - *three things you found interesting in this lesson*
     - *two questions you still have for me*
     - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

  5. In the next lesson, clarify any questions that students have.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
Display real models of computer accessories used to store copies of files (external hard drive, USB)						



LESSON 2 pp. 52–53

COMPREHENSION

AIM: To reflect on different kinds of backup methods for protecting data.

TIME: 5–7 minutes

1 Look and match

1. Read the directions aloud, and then point out the backup methods (a–c) and check that students remember what they are. Read aloud the situations (1–3). **Say** *Look at the keywords and phrases (the most important information) in the three situations, then decide which backup method or methods you could use for each one.*
2. Read aloud situation 1: *I want to be very sure that my files are saved.* **Ask** *What are the key-words or phrases?* (Answer: **1. very sure my files are saved**). Repeat this with situations 2 and 3. (Answers: **2. don't have enough room on my computer 3. don't have an internet connection 3. print/at school**)
3. Have students work independently and match the backup methods and the situations. **Say** *Some of the situations might have more than one answer. Read the sentences carefully and pay attention to the information you underlined.*
4. When they are finished, help students check their answers and ask for reasons. (Answers: **1. a, b, or c 2. a or b 3. a or b**).

OPTIONAL: Ask students questions about the situations to check they understand how each backup option works, e.g.: *Why is hybrid backup good if you want to be very sure your data is saved and safe?* (Suggested answers: **data is backed up in different places**); *What are the advantages of USB memory sticks?* (**they're small and easy to carry and don't require an internet connection**).



LESSON 2 Protecting ourselves and our information

Comprehension

1 Look and match

Match the backup methods for each situation.

external drive a	Flash Memory b	hybrid backup (a - b) c

1. I want to be very sure that my documents and files are saved.	☐
2. I want to back up my files but I don't have an internet connection.	☐
3. I need to store my research paper on a device so I can print it at school.	☐

Critical Thinking

2 Think and write

Make a list of the ICT tools you use to back up your homework and projects. Then, ask your friends and your parents what tools they use and add their answers to your list.

____
____
____
____
____
____
____
____

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CRITICAL THINKING

AIM: To help students identify ICT tools that they and other people use to back up their data.

TIME: 10–14 minutes

2 Think and write

1. Tell students that they are going to think about ICT tools they use. **Say** *Make a list of ICT tools that you use to back up your homework and projects.*
2. Give students some time to write in the space provided.
3. Next, form groups. **Say** *Some people use different ICT tools. Discuss with your friends and parents what ICT tools they use. Add any tools that are different from the ones you use to your list.*

ICT and Me

3 Think and write

List the files and folders that you want to back up on your computer, phone, or other device. This can include items like music and photos. Which items should you backup first? Rank the items from most important (1) to least important (5). Share your list with a classmate. Talk about the similarities and differences in your lists.

Item	Rank
____________________	__________
____________________	__________
____________________	__________
____________________	__________
____________________	__________

4 Think and answer

You want to create an account for an online quiz that tells you the job you should have when you grow up. Which pieces of PII do you think are OK to share?

Register new account

your first name ________ your age ________

your last name ________ your date of birth ________

your address ________ your place of birth ________

the name of your school ________

your parent's bank account number OR credit card number ________

Create Account Cancel

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ICT AND ME

AIM: To help students consider order of importance when backing up files and folders.

TIME: 8–10 minutes

3 Think and write

1. **Ask** *What files do you have on your computer, phone, or other devices?* Have the class share their ideas and write two or three on the board, e.g., *music, photos, homework*. Then **ask** *Which one should you back up first? Why?* Encourage the class to share their reasons, but do not write anything on the board.
2. Read aloud the directions. Verify that students understand what they are supposed to do.
3. Have students complete the activity individually.
4. Next, form pairs. **Say** *Share your list with your classmate. What is the same in your lists? What is different?* Have students work together to share their lists and compare them.
5. When students are finished, invite them to share the similarities and differences between their lists.

AIM: To plan what PII (personally identifiable information) to share in an online account.

TIME: 10–12 minutes

4 Think and answer

1. Read aloud the directions and the prompts. Verify that students understand what they are supposed to do.
2. Form pairs or small groups. Have students work together and discuss which pieces of information they think it is OK to share. You may want to tell them to circle the ones they can share and draw a cross through the ones they shouldn't share. Encourage them to think about the reasons why.
3. Invite groups to share the responses and their reasons. Provide feedback as necessary. (Suggested answers: **It's OK to share your first name, your last name, your age; It's not OK to share your address or the name of your school (because people can easily locate you), your date of birth or place of birth (because this information can be used to steal your identity), or your parents' bank account number or credit card number (because this information can be used to steal their money).**)

EXTENSION ACTIVITIES

1. Have students produce a short comic-strip story about a person's data being stolen online and how this happened.
2. If possible, invite the school staff member responsible for the school computer labs / ICT network to talk to students about how they keep data safe at school. Before this visit, encourage students to think about different data that needs to be protected (e.g., parents' contact information, students' medical information, teachers' bank account information, students' names and dates of birth) and prepare questions.

LESSON 3 pp. 54–55

Password security

OBJECTIVES
- Understand the importance of password protection.
- Explain the purpose of a password manager.
- Discuss how to use multi-factor authentication to protect your data and accounts.

LIFE SKILLS
- Learning to know: critical thinking

VALUES
- Work values: proficiency

ISSUES AND CHALLENGES
- Globalization issues: technological awareness

MATERIALS NEEDED
- Sticky notes (Engage)
- Whiteboard (Explore and Engage)
- Pieces of paper (Explore and Review)

LESSON 3 Password security

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Understand the importance of password protection.	☐ Very well	☐ OK	☐ Need more work
• Explain the purpose of a password manager.	☐ Very well	☐ OK	☐ Need more work
• Discuss how to use multi-factor authentication to protect your data and accounts.	☐ Very well	☐ OK	☐ Need more work

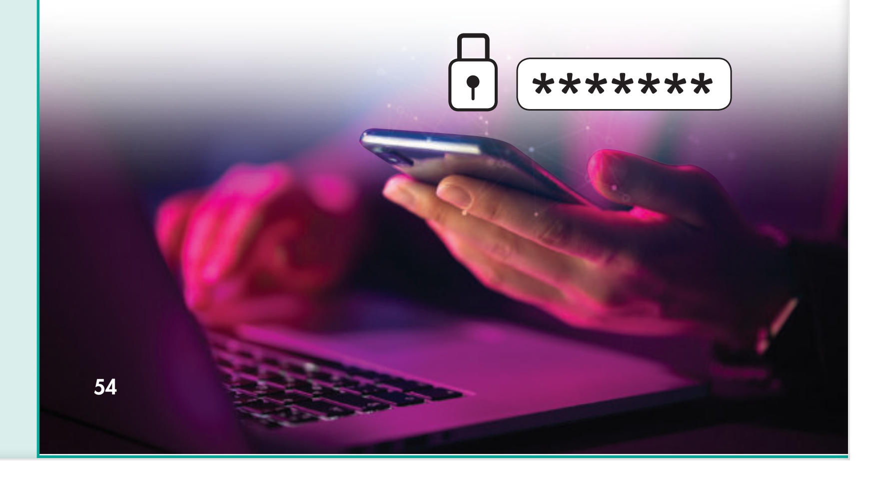
Engage

How many different passwords do you use on your devices and online? How strong do you think your passwords are? Why?

Learn

Reasons to protect your password

There are many ways hackers can get your password. One way is called phishing. Phishing is sending a message via e-mail or social media applications that looks real, but isn't. One type of phishing scam, is a message which says that you have won a prize, but you have to give your bank account details to get the prize. Another encourages you to act quickly. When an attachment, or file, is opened, data-stealing software is installed on the person's computer, or the user is asked to enter sensitive information such as bank account details. Ways of identifying such messages, include misspelled words, grammar errors, or requests for too much personal data. Smishing is the same thing, but is a text message instead of an email.



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OBJECTIVES

AIM: To encourage students to take responsibility for their own learning needs and paths.

TIME: 2–3 minutes

- Follow the steps for **Routine 2: What Do I Need to Do?**
  1. Draw students' attention to the lesson topic. **Say** This lesson, we're going to learn about keeping our passwords safe online.
  2. Read the objectives aloud to the class.

OPTIONAL: **Ask** Which objectives can you already do? Elicit some ideas.

  3. **Ask** What kind of things will we need to pay attention to during the lesson?
  4. Elicit ideas from the students, e.g., **I need to pay attention to details and definitions of new words (e.g. password manager, multi-factor authentication).**
  5. Write students' ideas on the board and remind students to pay attention to them during the lesson.

ENGAGE

AIM: To help students organize their thoughts and ideas regarding lesson objectives.

TIME: 5–7 minutes

- Follow the steps for **Routine 8: Ideas Organizing.**
  1. Draw students' attention to **Engage**. Read the questions aloud. Elicit one or two answers from the class.
  2. Give each student several sticky notes. **Say** *Write one thing that you use a password for on each sticky note*. (e.g.: **email, social media, a game app, the school website.**)
  3. When students are finished. **Say** *Now think about how strong your passwords are and organize your sticky notes into two groups: things with strong passwords and things with weak passwords.*
  4. Form pairs. **Say** *Explain why you think your passwords are strong or weak. How can you make the weak ones stronger?* Remind students to talk about their passwords in general terms only, e.g. referring to letters, numbers, special characters, etc. They should not reveal their actual passwords, even to their friends.
  5. Have some students share their ideas with the class.

OPTIONAL: Write examples of weak passwords on the board, e.g.: *123456, password, abc123, Hamid123*. Ask students to make each one into a strong passwords and write their suggestions on the board, e.g.: *135@@246, !PA55w0rd, AbC@1*2!3#, 321DiMaH!!*.

LEARN

AIM: To enable students to read text in a way that maintains their interest; to help students improve their own reading ability.

TIME: 15–20 minutes

- Follow the steps for **Routine 16: Buddy Reading**.
  1. Form pairs. Students sit with a classmate, preferably with a similar reading ability, shoulder to shoulder.
  2. **Say** *You're Reading Buddies. That means you're reading friends, so your job is to help each other. You're going to take turns reading the text to each other. If you're reading, remember you can ask for support from your Reading Buddy, or even ask them to take over for a while. I'll be moving around the classroom if you need me.*
  3. Point to the first paragraph of the text. Tell students to take turns reading each paragraph aloud to their partner.
  4. While Reading Buddies work together, circulate through the room and provide help with pronunciation and comprehension as necessary.
  5. To speed up the lesson, shout *My Turn!* and read a section aloud. Then hand over the next section to the buddies. Continue alternating like this, so that they receive practice listening to you, as well as to each other.

OPTIONAL: Ask students to summarize the text as a class discussion and check comprehension of new words.

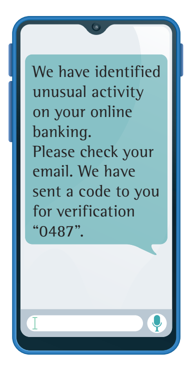
Teaching support for an integrated classroom

Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
- Writing a glossary on the board of key terms (hacker, phishing, password manager, smishing, biometrics) and their explanations to be used as a reference during the lesson. - Writing the abbreviations PII (personal identifiable information), PIN (personal identification number) and MFA (multi-factor authentication) with their full forms on the board to be used as quick reference throughout the lesson.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Reading aloud the text message on the phone for the blind, and displaying both zoomed for the weak sighted.

Password managers

You need strong passwords to help protect your personal data from hackers. A password manager creates a strong, unique password for each of your accounts. It also tells you if the passwords you already have are too weak or if you've reused them. It can even tell you if one of your passwords has been stolen online.

Multi-factor authentication



Passwords can also be strengthened through Multi-Factor Identification (MFA). This means you provide at least two ways of identifying yourself. It often combines a known factor, such as a password or PIN (personal identification number), with a factor you have, such as an email or a one-time code. For example, you might enter your password on a game website and receive a text verifying you are signing on to the site. Only after both steps are complete can you access the game. This means hackers who access your online passwords through data breaches or phishing attacks can't access your accounts because they don't have the second factor. Another type of MFA is when you log into one of your accounts from any device other than your permanent device. For example, you try to log into the game website on a different PC to your usual PC. You will be sent a text message to your mobile, asking you to confirm that you are the person who owns the email address that you are logging in as. The text message will include a number code which will give you access to your account, and it is specified for a short period of time and for one time only.

Explore

In a group, make a list of the advantages of MFA. Then brainstorm and list the disadvantages. Discuss whether the advantages outweigh the disadvantages or vice versa. Share your results with the entire class.

Review

1. What examples of phishing or smishing attacks have you heard of or seen?
2. Have you used multi-factor authentication or have you seen someone else use it? What kinds of verification did they use?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Multi-factor authentication is also referred to as "two-step verification," because it requires an individual to verify their identity using more than one method. Multi-factor authentication is required because passwords can be stolen, cracked, or automatically filled in on public or stolen devices. Secondary authentication can be receiving a verification code via text message or phone call, accessing a multi-factor authentication app on a smartphone or answering a secret question that only the account owner can answer. Online stores and banks often use MFA, and some companies require their employees to verify their identity in several steps to access corporate software or files.

TEACHING TIP

Consider helping students to curate a glossary of terms related to cybersecurity using a sheet of note paper. They can refer to this glossary as they move through the theme.

HOME-SCHOOL CONNECTION

Have students show the phishing email (Learn by Doing Activity 2) to their family members and ask them to read it. Students can then ask their family members if they think it is a real email and if they would respond to it. Then they can explain why it is a phishing email and point out the suspicious information.

EXPLORE

AIM: To enable students to organize what they have read using a graphic organizer and to compare and contrast ideas.

TIME: 8–10 minutes

- Follow the steps for **Routine 23: T-chart**.
  1. Draw students' attention to Explore. **Say** *In the text, we read about multi-factor authentication and now we are going to think about this a little more.* On the board, draw a T-chart with the column headings *advantages* and *disadvantages*:

advantages	disadvantages

  2. Form groups. Give each group a sheet of paper. **Say** *Copy the T-chart. Write the advantages of multi-factor authentication (MFA) in the first column.* (Suggested answers: **You have to provide more than one type of identification, so it is more difficult for hackers to access your accounts – even if they have your password; a hacker can't copy your biometrics, etc.**) *Then, write the disadvantages of MFA in the second column* (Suggested answer: **Takes longer to log into websites, accounts, etc.**) **and decide if the advantages outweigh the disadvantages or vice versa**.
  3. Have students discuss and complete their T-charts. Move around and listen to groups as they are talking. Give help, if needed.
  4. When students are finished, get feedback from the groups.

OPTIONAL: Students can copy their completed T-chart into their notebooks.

REVIEW

AIM: To check and consolidate the knowledge students should have learned today.

TIME: To be completed at home

- Follow the routine for **Routine 26: Family test**.
  1. Draw students' attention to **Review**.
  2. **Say** *You're going to ask a family member to test you on your knowledge.*
  3. **Say** *First, you are going to copy some questions on a piece of paper. Later on today, someone in your family will ask you the questions. Tell them everything you know!*
  4. Have students copy the Review questions to take home so that family members can test them.
  5. When students return to class, follow up by asking them if they were able to answer the questions easily.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 29: Promise!**
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to…*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g.: *I'm going to try to… take notes during class, ask the teacher when I don't understand, take part in class discussions, listen when others speak, etc.*

  5. Praise students for their efforts.

Teaching support for an integrated classroom

Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
Use the demonstration strategy to explain multi-factor authentication.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Reading aloud the text message on the phone for the blind, and displaying both zoomed for the weak sighted.



COMPREHENSION

AIM: To reflect on how students use different verification (or authentication) methods in their everyday lives.

TIME: 5–7 minutes

1 Think and answer

1. **Say** *We have learned about different verification methods to check that something is true.*
2. Ask students if they can remember any of the different verification methods they read about in the previous lesson. (Suggested answers: **a password, a PIN number, a text with a one-time code**)
3. Draw students' attention to the chart and read the verification types in the first column. Check that students understand what they are. Then, read the headings for the other three columns.
4. Read the first option again your fingerprint. **Ask** *Is a fingerprint something I know, something I have, or something I do?* **(something you have)**. Wave your hand and say *It's something I have, so I check the second column.*
5. Have students work independently and go through the remaining verification types, checking the correct column.
6. When they are finished, help students check their answers.

	Something you know	Something you have	Something you are or do
your fingerprint		✓	
a text message		✓	
the answer to a security question	✓		
a verification code	✓		



LESSON 3 Password security

Comprehension

1 Think and answer

Check the type of verification for each item below.

	Something you know	Something you have	Something you are or do
your fingerprint			
a text message			
the answer to a security question			
a verification code			

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Issues and challenges

2 Look and write

New message

To: reemhassan@egypt.com
From: bankegypt@342gf4236dss.com

Dear Sir,
Thank you for your bisiness! You won a vacation to Hurghada! But, hurry!
This prize only good today.
If the link doesn't work, reply to this email with your name, address and bank account number. Hurry!

Sign in to get your prize!

Sincerely,
Head of Customer Service
Bank of Egypt

SEND

1. How does the message encourage you to respond?

2. What errors or problems do you see in this phishing email?

ICT and me

3 Think and answer

Are there people you know who don't know about phishing and smishing? What can you tell them to help them protect themselves from these scams?

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ISSUES AND CHALLENGES

AIM: To help students recognize common elements of phishing scams to help them protect themselves.

TIME: 12–15 minutes

2 Look and write

1. Ask students to read the email silently.
2. When they are finished reading, ask questions about the text: *What kind of text is this?* (**an email**) *Who is it to?* (**Reem Hassan**) *Who is it from?* (**the Head of Customer Service at the Bank of Egypt**) *What is their email address?* (**bankegypt@342gf4236dss.com**)
3. Next, read questions 1 and 2 aloud. Have students read the email again and answer the questions independently. Then, put them in pairs to compare their answers.
4. Check the answers with the class. (1. **by clicking on a link or replying to the email quickly** 2. **The sender's address doesn't look official; the email begins *Dear Sir* (it should begin *Dear Madam* or Dear *Miss/Mrs Hassan*); *business* is misspelled; there is a grammar mistake *This prize only good today*; Reem's bank wouldn't need her account information.**)
Invite students to say whether they noticed that the email was a phishing email right away.

OPTIONAL: Engage students in a short class discussion. Ask questions, e.g., *How many times did you have to read the email before you realized that it was a phishing email? Do you think you would have responded to the email?*

ICT AND ME

AIM: To help students consider how to protect themselves and people they know from phishing and smishing scams.

TIME: 8–10 minutes

3 Think and answer

1. Read the questions. Verify that students understand what they are supposed to do.
2. Have students complete the activity individually. Walk around and help students as needed.
3. When students are finished, they can compare their ideas in pairs or groups.
4. Invite students to share the responses they wrote. Provide feedback as necessary.

EXTENSION ACTIVITIES

1. Have students name the types of verification you use and where you use them. **Say** *Check the types of verification you use and where you use them.* Provide an example of something you use: *I use a verification code to make a payment online with my credit card.* Give students time to complete the activity, and then have them compare their notes in pairs or small groups.
2. **Say** *Imagine you are Reem, and you replied to the email from the "bank" in Activity 2. What do you think happened next?* Form groups and have students discuss their ideas.
3. Have students role play a conversation between Reem and her real bank manager. Tell them to choose between calling the bank manager to confirm the email and calling the bank manager to say that her money has been stolen.

LESSON 4 pp. 22–23

How to deal with fake websites

OBJECTIVES

- Discuss what scam websites are trying to accomplish.
- Explain how to avoid scam websites.
- Identify people or organizations you can report to about problems with websites.

LIFE SKILLS

- Learning to do: decision-making
- Learning to know: critical thinking

VALUES

- Work values: proficiency

ISSUES AND CHALLENGES

- Citizenship issues: legal awareness

MATERIALS NEEDED

- Pieces of paper (Objectives)
- Poster paper or whiteboard (Engage)
- Pieces of paper, poster paper, and colored pencils (Explore)

LESSON 4 How to deal with fake websites

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Discuss what scam websites are trying to accomplish	☐ Very well	☐ OK	☐ Need more work
• Explain how to avoid scam websites.	☐ Very well	☐ OK	☐ Need more work
• Identify people or organizations to whom you can report problems with websites.	☐ Very well	☐ OK	☐ Need more work

Engage

People often say "It is too good to be true!" Do you believe that? What would be something that is too good to be true for you?



Learn

Going online often means visiting new websites and interacting with new people. You should be careful in these situations, just as you would in any new environment.

Scam websites

Sarah and her brother Bilal love to learn about fixing computers. While researching how to fix a problem with their laptop, they found a website with some information. While on the website a notice popped up saying they had won a free computer. All they had to do was pay for the shipping by giving the website their parents' credit-card details. They were so excited! When they told their mother about the prize, and what they needed to do to get the free laptop, their mother sat them down and told them the truth.

She explained that some websites are scam websites. These websites can be phishing websites that present fake situations that try and get your information. These types of websites include online shopping sites that never send you the correct items you bought, scareware websites that say your computer has a problem and you need to download something, or a "sweepstakes" scam that offers you a prize that never comes.

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OBJECTIVES

AIM: To help students activate prior knowledge related to the lesson content.

TIME: 5 minutes

- Follow the steps for **Routine 5: What Do I Already Know?**
  1. Draw students' attention to the lesson objectives. Give each student a sheet of note paper. **Say** *Make a chart with three columns and label them Objective 1, Objective 2, Objective 3.* **Say** *I am going to read out the objectives. For each one, write some notes of what you already know about this topic in the appropriate column.*
  2. Read the objectives aloud to the class. Pause for 20–30 seconds between each one so students can take notes.
  3. Put students into small groups. **Say** *Share what you know about each objective.*
  4. Then have a class discussion. Ask students to share their ideas about each objective.

OPTIONAL: Ask *Which objective do you want to find out more about?*

ENGAGE

AIM: To help students achieve the lesson objectives by focusing on the topic.

TIME: 2–5 minutes

- Follow the steps for **Routine 6: Think–Pair–Share.**
  1. Draw students' attention to **Engage**.
  2. **Say** *I'm going to ask you some questions. Don't say anything! Just think about them quietly.*
  3. Read aloud the Engage question. Let students think silently about some possible answers. They may take simple notes if they wish.
  4. After a minute, **Say** *Now sit shoulder to shoulder with a classmate and share your ideas. You can make notes, but keep them very short.*
  5. Check that students are comparing their ideas with a classmate.
  6. **Say** *I'm going to ask the questions again. This time, put your hand up to answer.*
  7. Read the questions aloud again. Call on students with their hands up and have them share their ideas with the class. They can refer to their notes, but shouldn't read whole sentences to the class.

LEARN

AIM: To motivate students to read a long text; enable students to achieve the lesson objectives.

TIME: 15–20 minutes

- Follow the steps to **Routine 12: K-W-L Chart**.

Before reading

1. Draw a chart with three columns on the board. Label the columns: *K, W, L*.
2. **Say** *Copy the chart into your notebook or on a piece of paper*.
3. **Say** *K means: What do you Know about this topic? W means: What do you Want to know about the topic? L means: What have you Learned about the topic? Before we read, we're going to complete columns K and W. After we read, we're going to complete column L.*
4. Have students sit shoulder to shoulder. Say *We are going to read a text about getting help and staying safe online.*
5. **Ask** *What do you Know about the topic? Share ideas and note them in column K.*
6. **Ask** *What do you Want to know about the topic? Share ideas and write them in the column W.*

After reading

7. After students have read the text, ask *What did you Learn about the topic? Share ideas and write them in column L.*
8. Point to the lesson objectives. Say *Now you know how to deal with fake websites and get help if you need it. Good job!*

OPTIONAL: Have the students review column W. **Ask** *What else do you Want to know? If the answer wasn't in the text, where can you find the information?*

<table>
<tr><th colspan="7">Teaching support for an integrated classroom</th></tr>
<tr><th>Intellectual disability and slow learning</th><th>Autism</th><th>Hearing impairment</th><th>Attention deficit hyperactivity disorder</th><th>Learning disability</th><th>Motor disability and cerebral palsy</th><th>Blind and weak sighted</th></tr>
<tr><td colspan="5">- Summarizing the text to main ideas and specific short sentences.
- Copying the picture and text onto the board, labeling it.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler: they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td></td></tr>
</table>

How scam websites operate

All of these phishing sites operate on the same principles.

- First, they try and **bait** you. They want you to get excited or draw your attention to the site.
- Next, they try and **compromise** your privacy by getting your personal information or by getting access to your device.
- Finally, they **exploit** the information they have gained about you in a bad way, or the possibility to hack your device to make themselves money. Each time it will look different, but all scam websites follow these basic principles.

Sarah and Bilal were so upset. They wanted to know what they could do to stop scam websites. Their mother told them the best thing they could do was to learn how to avoid these websites, for example:

- Check that the URL (Uniform Resource Locator) of the website is credible. This is basically the address of the website.
- Check for misspelling or bad grammar – a reliable source will be well-written, with almost no mistakes.
- Do a search online to see if it is a known scam. If something doesn't look right, it most likely is a scam website.

If you are a victim of a scam website, report it. Tell a trusted adult like your parents or teacher. You can also contact the child helpline or The General Department for Combating Internet Crimes. Report the scam website to the service provider, the e-commerce store, and your bank, with the help of your teacher or family member.

Explore

Many scam websites use language to get you to feel excited, or a sense of urgency or fear to make you do something quickly without thinking too much about it. What are some words or situations a scam website might use to create a sense of excitement? Urgency? Fear?

Review

1. How do you think you would feel after being tricked by a fake website? Why should you not feel bad or ashamed of being tricked?
2. Why is it important to report the scam website?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Cyberbullying is an increasing problem, and lots of countries have laws against it. UNICEF Egypt has a special campaign that raises awareness of cyberbullying, including advice for parents, teachers, children, and young people on reporting and recognizing cyberbullying. You can find out more on UNICEF's website https://www.unicef.org/egypt/protecting-children-cyberbullying. The information is available in English and Arabic.

TEACHING TIP

During collaborative work, students may be tempted to start chatting about things that aren't related to the lesson. Walk around the classroom, making sure that students are staying on track. If you suspect that they aren't, ask them in a friendly and light-hearted way what they are supposed to be doing. This is more likely to keep students engaged and motivated.

HOME-SCHOOL CONNECTION

Have students explain the "stop, block, and tell" system to their family members, especially younger siblings or cousins.

EXPLORE

AIM: To enable students to work quickly, creatively, and collaboratively to generate ideas; lead an activity based on their ideas to meet the objectives.

TIME: 10 minutes

- Follow the steps for **Routine 20: Brainstorm**.
  1. Introduce the **Explore** topic. Read the instructions aloud.
  2. **Say** *Now we're going to think of lots of ideas, quickly, without stopping!*
  3. Have students sit in groups of three. Say *Choose a topic.*
  4. **Say** *One person in the group needs a piece of paper and a pen (or pencil). They will write your group's ideas down on the paper.*
  5. **Say** *You have five minutes to write down all the ideas you can think of! Don't stop!*
  6. **Say** *Go!* The activity begins. After a few minutes, call *Stop!*
  7. Give students time to read the ideas on their piece of paper.
  8. **Ask** *What ideas did you think of? Tell the class an idea that you like.* Lead a group discussion based on their brainstorm ideas. (Suggested answers: **You have won a holiday/laptop/car/iPad/phone; online shopping; scareware: words – exciting opportunity, urgent, act now today!, your bank details have been exposed, deadline, won't last, today only.**)

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

- Follow the steps for **Routine 25: Test a Partner**.
  1. Draw students' attention to **Review**. Explain that they are going to test each other on what they've learned this lesson.
  2. **Say** *Sit with a classmate, knee to knee. Discuss the questions in your book*.
  3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well.
  4. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop; encourage critical thinking.

TIME: To be completed at home

Follow the steps for **Routine 28: 3–2–1**.

1. Draw students' attention to Self-Assess. Read the first instruction aloud and point to the *I can…*

boxes.

2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
3. Remind students to be honest!
4. **Say** *After you've completed the self-assess, write a short list for me:*
   - *three things you found interesting in this lesson*
   - *two questions you still have for me*
   - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

5. Next lesson, clarify any questions that students still have.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
- Use flow charts based on order and sequence in learning the steps to avoid fake websites. - Determine in the Student's book, the sentences that clarify how to act if you are a victim of a scam website.						



COMPREHENSION

AIM: To reflect on what students have learned related to URLs.

TIME: 8–10 minutes

1 Read and answer
Dissecting the URL:

1. Read the first line to the class and write on the board the word protocol and ask *What is protocol?*
2. Have the class suggest some ideas and then work together to write an answer (Suggested answer: **protocol determines how the information will be transferred**)
3. Repeat with the words resource name and file path. Have students complete the activity independently.
4. When they are finished, invite students to share their answers. Give feedback as necessary. (Suggested answers: **1. The URL is incorrect because it has an extra 'k' and extra 'b'. 2. The URL is incorrect because it has '.scam.org' in the file name.**)



How to deal with fake websites

Comprehension

1 Read and answer

Dissecting the URL:

All URLs are made up of three main parts – the protocol, the resource, name, and the file path. You should understand the different parts of a URL so you can spot something that doesn't look right.

- A URL starts with the **protocol**. This determines how the information will be transferred. Some examples include http, https.
- The **resource name** is the web server, or site, being requested and shows who owns that space. It often ends with .com, .net, .org, .gov, or .edu.
- The last part of the URL is the **file path**. This identifies the specific resource the link is giving you access to.



Below are some important things to remember when looking at a URL. Read the situation and answer the questions.

1. You want to access the Egyptian Knowledge Bank. You look at the resource name and it says https://www.ekkbb.com. What is wrong with the URL?

____

____

2. You try to access the Bibliotheca Alexandrina website online. The URL looks like this: https://bibalex.org.scam.org. What is wrong with the URL?

____

____

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ICT and me

2 Think and answer

Create your own personal plan to deal with scam websites. You may need to find some answers online.

What individual would you report the scam website to?

What service provider would you reach out to? What are their contact details?

What Egyptian authorities would you report the scam website to? What are their contact details?

Summarize the advice learned above into two short phrases. Add a third piece of advice to avoid a scam website.

Research

3 Think, do, and answer

You have learned that the most common scam websites are phishing websites, online shopping websites, scareware websites, and the sweepstakes scam.

Ask ten relatives, or adults at your school, which scam websites they have heard of and which ones they have seen themselves. Make a bar chart to show how many people have heard of each scam website and how many have actually seen each scam website. Share the answers with the class.

Write advice to your relatives and the adults who you asked about the scam websites.

- What should they watch out for?
- What should they do if they fall for a scam website?

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ICT AND ME

AIM: To create your own personal plan to deal with scam websites.

TIME: 8–10 minutes

2 Think and answer

1. Read aloud the directions and the questions. Verify that students understand what they are supposed to do.
2. Have students work individually to answer the questions. Walk around and monitor to help them as necessary.
3. When students have finished, form pairs so they can take turns sharing their answers.

RESEARCH

AIM: To do a survey of the most common scam websites.

TIME: To be completed at home

3 Think, do, and answer

1. Have students complete this activity individually. First, read the directions aloud and make sure that students understand what they have to do.
2. Have students do the activity at home by interviewing members of their family. If they cannot find ten people to ask, this is fine.
3. When students have completed their survey, they make a bar chart to show how many people have heard of each scam website and how many have actually seen each scam website.
4. Students share the results with the rest of the class. Open this up for a class discussion to see if there are common answers across the class.

EXTENSION ACTIVITIES

1. Have students form pairs and role play conversations with the plan they wrote in Activity 2. One student takes the role of the person who has written the personal plan and the other asks the questions from Activity 2.
2. Give students time to practice their role-plays, and then have them perform them for the class.

LESSON 5 pp. 62–63

Intellectual property rights

OBJECTIVES

- Understand what copyright means.
- Respect the law when using information, devices, and networks.
- Identify when I need to attribute a creator's work.

LIFE SKILLS

- Learning to do: communication, self-management
- Learning to live together: empathy

VALUES

- Work values: respect

ISSUES AND CHALLENGES

- Citizenship issues: legal awareness
- Globalization issues: digital citizenship

MATERIALS NEEDED

- Access to internet (Explore and Critical thinking)
- A list of quotes – with details of the authors and sources – that are appropriate for the age group – Optional (Explore)
- Magazines and newspapers – Optional, a short text from the EKB (Extension activities)

LESSON 5 Intellectual property rights

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Understand what copyright means.	☐ Very well	☐ OK	☐ Need more work
• Respects the law when using. information, devices, and networks.	☐ Very well	☐ OK	☐ Need more work
• Identify when I need to attribute a creator's work.	☐ Very well	☐ OK	☐ Need more work

Engage

What would you think if someone took something you created and put it online without your permission? What if they made money off your creation?

Learn

Online content

It might be tempting to take the content you see online, and copy and paste it into your school report, but copyright law protects print and digital content. Copyright gives creators legal protection for the things they create.

Copyright

The international symbol for copyright is the letter C with a circle around it. Copyright protects creators' work. Copyright laws cover many kinds of creations, including this book! Copyright also protects images, music, movies, games, computer software, and websites. The copyright for a website is usually at the bottom of the home page.

What is NOT covered by copyright?
-works in the public domain
-facts
-discoveries
-official documents such as laws
-creative works whose owner has been dead for 50 years

You might be "using" copyrighted content if you download a TV episode on YouTube, or use someone else's artwork on your social media account. When you use copyrighted content, you should respect the creator's work and use it fairly. Ask for permission to use it, and attribute it (or give credit) to the creator.

Are there sources on the internet that do not fall under copyright? Sometimes the owner of a creative work gives permission to reuse his work at any time and any place, so we can use it freely; this is called "creative commons". In addition, Egyptian law gives freedom to use a creator's creative work 50 years after their death. Therefore, you should make sure to use creative work this applies to.

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OBJECTIVES

AIM: To ensure that students understand the objectives of the lesson.

TIME: 2–3 minutes

- Follow the steps for **Routine 3: Understanding Objectives**
  1. Draw students' attention to the Objectives. Say *To meet the objectives of a lesson, it's a good idea to make sure that you understand what the objectives are actually saying.*
  2. Read the objectives aloud to the class.
  3. **Ask** *Are there are words or phrases in the objectives that you don't understand? What are they?*
  4. Explain any unfamiliar terms or vocabulary. Some students, for example, may be unfamiliar with the meaning of *copyright*. Explain, e.g.: *Copyright is the legal right to control and sell a book, piece of music, etc. We'll be learning more about it in this lesson.*
  5. Remind students that they will check the *I can...* boxes after completing the lesson.

ENGAGE

AIM: To enable students to participate confidently and collaboratively in a class discussion that leads to the objectives of the lesson.

TIME: 2–5 minutes

- Follow the steps for **Routine 6: Think-Pair-Share**.
  1. Introduce **Engage**.
  2. Say *I'm going to ask you two questions. Don't say anything! Just think about them quietly.*
  3. Read aloud the questions. Let students think silently about some possible answers. They may make simple notes if they wish.
  4. After a minute, say *Now sit shoulder to shoulder with a classmate and share your ideas. You can take notes, but keep them very short.*
  5. Check that students are comparing their ideas with a classmate.
  6. **Say** *I'm going to ask the questions again. This time, put your hand up to answer.*
  7. Read the questions aloud again. Call on students with their hands up and have them share their ideas with the class. They can refer to their notes but shouldn't read whole sentences to the class.

OPTIONAL: To encourage more discussion, ask follow-up questions, e.g.: *<Name> What do you think? <Name> Do you agree?*

LEARN

AIM: To enable students to read text in a way that maintains interest.

TIME: 15–20 minutes

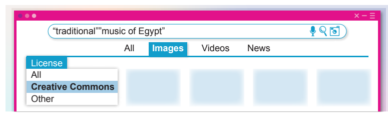
- Follow the steps for **Routine 15: Popcorn Reading**.
  1. **Say** *We're going to try Popcorn Reading now. I'll ask a student to read aloud. When I say "Popcorn," that student should stop, look around, quickly choose the next person to read, and say their name.*
  2. Remind the class *Remember that you must choose a NEW person; don't choose the person who just read! And stay on your toes, because you could be called any time!*
  3. Assign the first person to read aloud. The other students read along silently.
  4. Call out *Popcorn* when the reader reaches a logical point in the text (e.g., the end of a paragraph or idea). That reader calls out the name of the next person to read.
  5. Note: Remind students to read the call-out box (about what is not covered by copyright). Pause to focus on the information in the box and verify that students understand it.

OPTIONAL: Instead of calling out their name, the reader could tap another student on the shoulder.

  6. The activity continues this way, in the form of a Round Robin, until you reach the end.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
Draw the international symbol for copyright C with a circle around it on the board, or on a card, and display where it appears on a website.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Describing the copyright symbol and other pictures and reading labels to the blind, and displaying a zoomed version for the weak sighted.

Written content



You should only use a small part of someone else's writing in a research paper. This might be a few words or a few sentences. There are two ways to use the writings of others: the first is to use the exact words as they are without change, and the second is to paraphrase ideas in your own style. In both cases, you must mention the name of the writers.

Images

Images are also protected by copyright. When you use an image, include the title, the artist or photographer's name, a link to the original image, and what kind of copyright it is protected by. If you don't want to get permission or buy images, you can make or take your own images instead.

Public domain and Creative Commons

Are there sources on the internet that do not fall under copyright?
Sources in the public domain and with Creative Commons reuse licenses can be used without a creator's permission. A Creative Commons reuse license means the creator has given permission for their work to be used anytime and anywhere. If you are searching for images online, you can filter your results to show only images with this license.
The public domain includes all creative works not covered by copyright law. In Egypt, creative works normally enter the public domain 50 years after the creator of the work dies.

Explore

Find a quote that you like. It can be a quote about life, something historical, or something from a book you have read. Write a few sentences about why you like it. Share the quote with your class. Cite the author and source. Explain why you think the quote is important or interesting.

Review



1. What are some specific things you have, see, or know that are covered by copyright law? Is it easy or hard to come up with examples? Why do you think that is?
2. Why do many people think it's OK to reuse photos they found online?



Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct **I can . . .** box.





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BE THE EXPERT

Respecting copyright is important, especially in the Information Age. All photos, articles, videos, even blog posts legally belong to the person who created them, unless they have formally sold or given the rights to someone else. As students often use the internet to look for information and ideas for their homework and projects, it is important that they understand how they can use this information legally.

TEACHING TIP

Some students may struggle to understand the importance of copyright; it can feel like a faraway concept because they can't see or don't know the owner of the copyright. To help them understand, ask students how they would feel if they took a photo or made a video that went viral on the internet, but no one knew that they were the ones who were behind it. Or if someone else claimed that the photo or video belonged to them?

HOME-SCHOOL CONNECTION

Ask students to share their quotes from Explore with their family and have them ask their parents to share their favorite quotes. Can their parents correctly attribute the quotes to the person who said them?

EXPLORE

AIM: To meet the objectives, while linking into want students have learned so far.

TIME: 5–10 minutes

- Follow the steps for **Routine 21: The 2 to 4 discussion**.
  1. Introduce the **Explore** topic. Verify that students understand what they have to do and allow them time to look on the internet or in books for a quote. Alternatively, provide students with a list of age-appropriate quotes (with the names of the authors and sources) to choose from. Say *Write your quotes and write the name of the author and the source (the website or the book).*
  2. **Say** *Sit with a classmate, shoulder to shoulder. Share your quote. Say who wrote it and where you found it. Explain why you think it is important or interesting.* Students discuss in pairs.
  3. **Say** *Now join another pair and form a group of four. Sit knee to knee and share your quotes.* Students discuss the quotes again, this time as a group of four.
  4. Go around the classroom and listen to the pairs/groups while they are talking. Give help, if needed. Make sure students are reviewing some previous knowledge.
  5. Elicit some answers from the class.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 4–6 minutes

- Follow the steps for **Routine 27: Quick Write**
  1. Draw students' attention to **Review**. Read aloud the questions.
  2. **Say** *You don't need to spend a lot of time thinking about your responses. Just write the first thing that comes into your mind. Ready? Begin!*
  3. Give students four or five minutes to write their responses.
  4. When they are finished, invite students to share their responses with a classmate.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop their skills.

Time: To be completed at home

- Follow the steps for **Routine 28: 3–2–1**.
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home*.
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a short list for me:*
     - *three things you found interesting in this lesson*
     - *two questions you still have for me*
     - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

- 5. Next lesson, clarify any questions that students still have.

Learn by doing LESSON 5 pp. 64–65

VOCABULARY

AIM: To review vocabulary related to image research.

TIME: 3–5 minutes

1 Look and match

1. Read the directions aloud. Tell students they will look at the text under the picture in the middle, and then decide which bits of the text go in which boxes.
2. Look at the first term "*Title*". Ask *Where can you find this information?* Ask a student to hold up their book and point to the correct part of the text. Tell students this goes in the box under "Title".
3. Have students work independently and write the remaining information in the correct boxes. Check answers as a class.

COMPREHENSION

AIM: To help students review key terms and concepts presented during the lesson.

TIME: 5–7 minutes

2 Read and write

1. Read each word aloud and make sure that students understand them.
2. Ask students to work on their own to complete the task. When they are finished, students share their solutions with the class.
3. Give feedback as necessary. (Suggested answers: **1. protects creators' work. 2. is when someone else's work is under copyright 3. is to repeat something spoken or written using different words 4. is when a source is in the public domain, it can be used without the creator's permission. 5. is a source which can be used without the creator's permission**)



Intellectual property rights

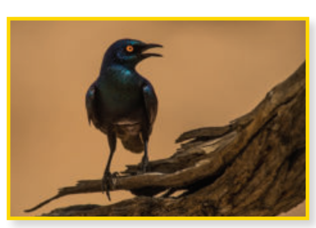
Vocabulary

1 Look and match

Write every part of the information shown under the photo, in the corresponding box.

Title: ....

Author: ....



"Bird, Namibia",©
Jeff Kerby/National Geographic
Image Collection

License: ....

Source: ....

Comprehension

2 Read and write

Write sentences to explain the following words.

1. copyright ____________
2. copyrighted content ____________
3. paraphrase ____________
4. public domain ____________
5. Creative Commons ____________

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CRITICAL THINKING

AIM: To help students identify websites that may have copyright on the information available on them.

TIME: 10–12 minutes

3 Think and answer

1. Form pairs of students. **Say** *Think about what sort of information is available on these websites and ask yourselves whether it would have copyright on it. Consider why you think it has/doesn't have copyright.* **Ask** *How could you confirm your answers?* (**By looking at the website**)
2. Do the first website (EKB) as an example. Check that students know what the letters EKB stand for (Egyptian Knowledge Bank). **Ask** *What sort of information is on the EKB website?* (**Cultural and scientific information**) *Do you think the EKB has copyright on their information?* (**Yes**) *Why?* (**Because the information is produced by lots of different people who have copyright on their work.**)

Critical thinking

3 Think and answer

Which of the following is likely to have a *copyright* on the information available on their website? Discuss why you think they do or don't. How can you confirm your answers?

The Ministry of Education

EKB

Telecom Egypt

Alexandria University

Nature Conservation Egypt

Life skills

4 Think and answer

Which item from the following is copyrighted? Why?

1. a. a Nike ad with a photo in a magazine
   b. a photo you took in front of a Nike store
2. a. a 200-year-old book about desert life
   b. an online article about cactus
3. a. an article about the development of algebra
   b. the mathematical equation $\frac{5}{2}x + 5 = 10$

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3. Continue in this way, reading aloud the name of each website and giving students time to work out the answer. Pause as you go along, providing feedback so that students can check their answers.

Nature Conservation Egypt: natureegypt.org. No copyright notice. (This is a .org domain and therefore is unlikely to have a copyright notice, as .org is normally used by non-profit or non-commercial sites. If they do have a copyright notice, this will normally only prohibit commercial but not educational use of their content.)

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EKB: https://int.ekb.eg. ©2017 Egyptian Knowledge Bank. All rights reserved. No part of this site may be reproduced without permission (This site contains a lot of copyright material.)

LIFE SKILLS

AIM: To help students identify information that is protected by copyright law.

TIME: 5–7 minutes

4 Think and answer

1. Tell students that they are going to review what they have learned about copyright.
2. Form pairs of students. Have students work together to identify the correct answers, explaining their reasons.
3. Invite students to share their answers with the class. Confirm the answers.
   (**1 a because it is an original image taken by a professional photographer, so the photographer (or the brand Nike) owns the image.**
   2 b. Option a is over 50 years old so is no longer covered by copyright law in Egypt. Option b is an online article so it's probably quite recent and still covered by copyright law.
   3 a. Option a is covered by copyright because it is written content, but option b is a fact.)

EXTENSION ACTIVITIES

1. Have students work in small groups to make posters of the copyright symbol with examples of images and texts from magazines and newspapers that would be covered by copyright. They can add information to their posters about what copyright is and why it is important. and display them.
2. Choose a short text from the EKB website that students will find interesting. Ask them to work independently and rewrite the text in their own words. When they are finished, form pairs. Ask students to compare their work and decide if that have paraphrased the text, or copied long parts of it.

LESSON 6 pp. 66–67

Using digital sources

OBJECTIVES

- Use ICT tools and sources to support decision-making processes.
- Differentiate between opinions and facts in different sources.
- Explain the different kinds of sources that can be used to conduct online research.

LIFE SKILLS

- Learning to do: decision-making

VALUES

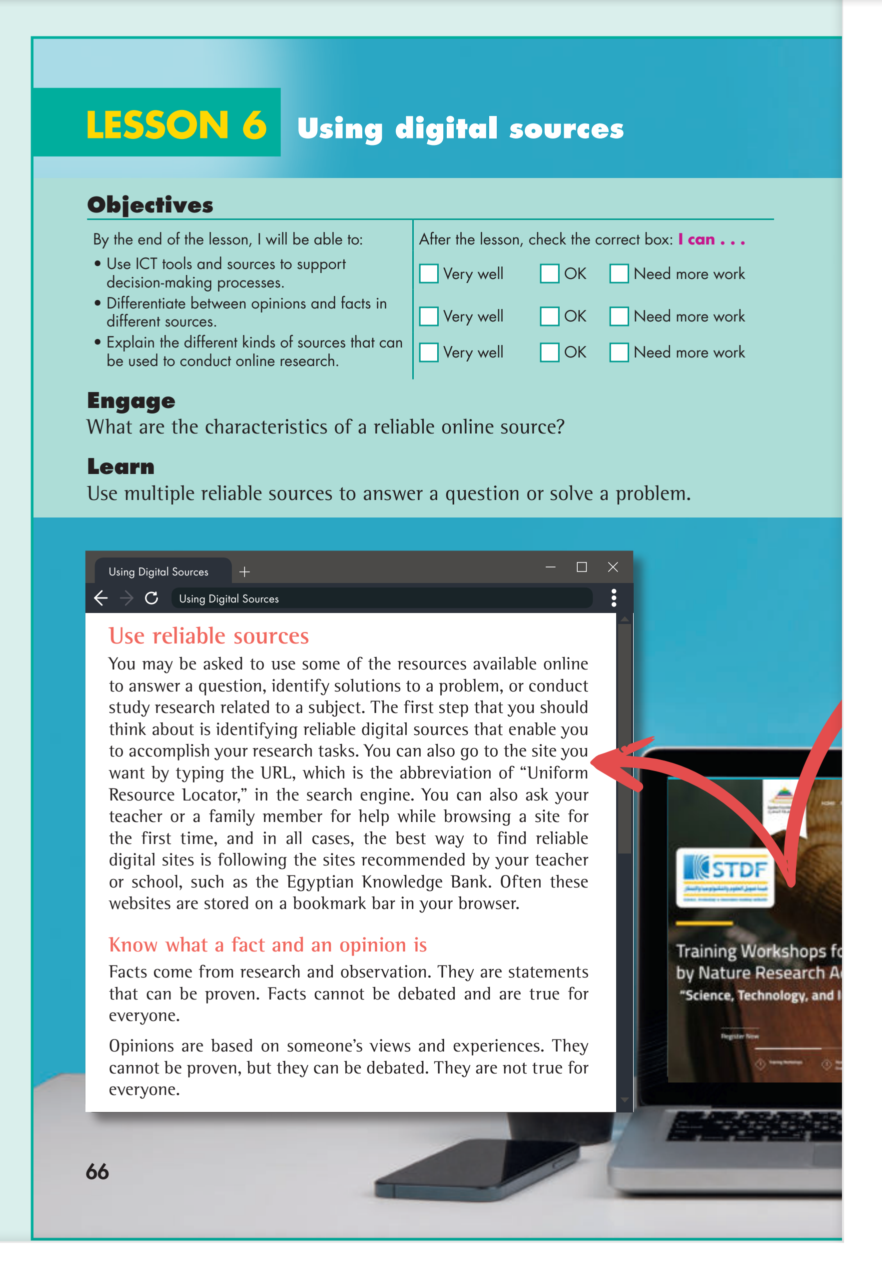
- Work values: transparency and integrity

ISSUES AND CHALLENGES

- Globalization issues: technological awareness

MATERIALS NEEDED

- Sheets of note paper (Objectives)
- Access to computers (Learn by doing)



LESSON 6 Using digital sources

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Use ICT tools and sources to support decision-making processes.	☐ Very well	☐ OK	☐ Need more work
• Differentiate between opinions and facts in different sources.	☐ Very well	☐ OK	☐ Need more work
• Explain the different kinds of sources that can be used to conduct online research.	☐ Very well	☐ OK	☐ Need more work

Engage

What are the characteristics of a reliable online source?

Learn

Use multiple reliable sources to answer a question or solve a problem.

Use reliable sources

You may be asked to use some of the resources available online to answer a question, identify solutions to a problem, or conduct study research related to a subject. The first step that you should think about is identifying reliable digital sources that enable you to accomplish your research tasks. You can also go to the site you want by typing the URL, which is the abbreviation of "Uniform Resource Locator," in the search engine. You can also ask your teacher or a family member for help while browsing a site for the first time, and in all cases, the best way to find reliable digital sites is following the sites recommended by your teacher or school, such as the Egyptian Knowledge Bank. Often these websites are stored on a bookmark bar in your browser.

Know what a fact and an opinion is

Facts come from research and observation. They are statements that can be proven. Facts cannot be debated and are true for everyone.

Opinions are based on someone's views and experiences. They cannot be proven, but they can be debated. They are not true for everyone.

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OBJECTIVES

AIM: To help students exchange information they already know in connection with the objectives.

TIME: 4–6 minutes

- Follow the steps for **Routine 4: Information, Please!**
    1. Tell students that they will be paired up with a classmate, and that they will then share what they know about the objectives.
    2. Form pairs of students, and then read the objectives aloud. Ask partners to take turns sharing what they already know about each objective.
    3. Give partners a few minutes to share their ideas with each other.
    4. Invite partners to summarize what they talked about. Use their comments to lead a brief class discussion.

ENGAGE

AIM: To enable students to participate confidently and collaboratively in a class discussion that leads to the objectives of the lesson.

TIME: 2–5 minutes

- Follow the steps for **Routine 6: Think-Pair-Share**.
  1. Introduce Engage.
  2. **Say** *I'm going to ask you a question. Don't say anything! Just think about it quietly.*
  3. Read aloud the question. Let students think silently about some possible answers. They may take simple notes if they wish.
  4. After a minute, say *Now sit shoulder to shoulder with a classmate and share your ideas. You can make notes, but keep them very short.*
  5. Check that students are comparing their ideas with a classmate.
  6. **Say** *I'm going to ask the questions again. This time, put your hand up to answer.*
  7. Read the question aloud again. Call on students with their hands up and have them share their ideas with the class. They can refer to their notes, but shouldn't read whole sentences to the class.

OPTIONAL: To encourage more discussion, ask follow-up questions *<Name> What do you think? <Name> Do you agree? Can you give an example? etc.*

LEARN

AIM: To activate students' background schema and encourage them to anticipate the content so they can build context before reading.

TIME: 2–5 minutes

- Follow the steps for **Routine 11: Preview**.
  1. **Say** *Previewing an article before you read can help you build context. You will have an idea what the article is about before you even start reading. It's a good habit to get into because it will help you understand and remember what you read.*
  2. Read aloud the first sentence. Tell students that the first sentence of a reading passage is called a "topic statement." It gives the main idea of the article and the ideas or information that will be covered.
  3. Direct students' attention to the subheads. Say *Subheads also give clues about the ideas and information that will be covered. Ask Based on the subheads you see here, what do you think the article is about?* Listen to student responses and provide feedback that helps them focus on the ideas suggested by the subheads.
  4. Tell students to keep their guesses in mind as they read the article. When they finish, ask if their guesses were correct.

OPTIONAL: Write guesses (both correct and incorrect) on the board and refer to them after reading to see which were correct.

Teaching support for an integrated classroom

Intellectual disability and slow learning	Autism	Hearing impairment	Attention deficit hyperactivity disorder	Learning disability	Motor disability and cerebral palsy	Blind and weak sighted
- Summarizing the text concerning online sources to short and specific short sentences. - Giving lots of examples of reliable and unreliable research sources.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Describing the picture of a bookmark bar to the blind and displaying a zoomed version for the weak sighted.



Using Digital Sources

Use multiple sources and facts

It's a good decision to use multiple sources in your research. This helps make sure you know all the important facts about a topic. It's OK if two reliable websites include the same information. It often means that the facts are true. Write notes for the first source, and then scan the next source for additional facts to add to your notes. If two online sources have different information, double-check that both sites are reliable. Then make sure the information is based on fact instead of opinion. Following copyright rules and laws is also a good decision.

Sources other than text in online articles and encyclopedias may include important information. If you need facts that can be measured, maps, graphs, infographics, and charts will be useful. Pictures and videos can also be reliable sources. They sometimes help us acquire information better through watching than just reading words, too. Archives and databases can also be reliable sources. They contain many types of research materials, including books, articles, diaries, letters, and photographs. The Egyptian Knowledge Bank is an example of an archive.

Explore

Write two facts and one opinion on a sheet of paper. Read your sentences to a partner. Have them guess which sentence is the opinion. Ask them to use what they know about facts and opinion to justify their answer.

Review

1. What are some facts and opinions you have heard recently?
2. What different kinds of sources have you used in the past? What new kinds of sources would you like to use?

Self-assess

Go to the Objectives at the beginning of the lesson. Check the correct I can . . . box.

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BE THE EXPERT

Navigating information online and trying to find the most reliable information can be extremely difficult. There is so much information online that it is easy to be misled by unreliable information or information that is biased, inaccurate, or falsified. In addition to websites that begin with https://, websites that end in .gov.eg or .org are generally more reliable, as they contain official information and research from government or organizations. Information from higher education institutions (ending in edu.eg in Egypt, .ac.uk in the U.K., or .edu in the U.S.) is also considered reliable.

TEACHING TIP

Make a link back to Lesson 2 and encourage students to think about the possible consequences of using unreliable online websites when inputting personal data.

HOME-SCHOOL CONNECTION

Ask students to create a bookmarks bar on their home computer with reliable websites for research.

EXPLORE

AIM: To meet the objectives while also linking into what students have learned so far.

TIME: 8–10 minutes

1. Read the directions aloud.
2. Verify that students understand what they need to do, and write the following sentences on the board:
   Egypt is in North Africa.
   The Egyptian soccer team is the best in the world.
   The population of Egypt is over 100 million.
3. Read the sentences aloud and ask students to identify which two sentences are facts (**1 and 3**) and which sentence is opinion (**2**).
4. Tell students to write two facts and one opinion independently.

- Now follow the steps for **Routine 21: The 2 to 4 Discussion**.

5. **Say** *Sit with a classmate, shoulder to shoulder. Read your sentences to each other. Identify the facts and the opinion in your partner's sentences*. Students share their sentences in pairs.
6. **Say** *Now join another pair and form a group of four. Sit knee to knee and read your sentences again.* Students read their sentences again, this time as a group of four.
7. Go around the classroom and listen to the pairs/groups while they are talking. Give help, if needed. Make sure students are reviewing some previous knowledge.
8. Elicit some sentences from volunteer students. Have the rest of the class identify the facts and opinions.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 5–10 minutes

- Follow the steps for **Routine 25: Test a Partner**.

1. Draw students' attention to **Review**. Explain that they are going to test each other on what they've learned this lesson.
2. **Say** *Sit with a classmate, knee to knee. Discuss the questions in your book.*
3. Move around the classroom and monitor the students. Make notes on things that they've learned incorrectly (or they've forgotten) and things they've done well. **Say** *Stop now. I want to review a few things with you.* Clarify any misinformation.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop their skills.

TIME: To be completed at home

- Follow the steps for **Routine 28: 3–2–1**.

1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
3. Remind students to be honest!
4. **Say** *After you've completed the self-assess, write a short list for me:*
   - *three things you found interesting in this lesson*
   - *two questions you still have for me*
   - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

5. Next lesson, clarify any questions that students still have.

Learn by doing LESSON 6 pp. 68–69

LIFE SKILLS

AIM: To identify whether statements are fact or opinion.

TIME: 10–15 minutes

1 Look and answer

1. Form pairs of students. Tell students that each of the four sentences is a fact or an opinion.
2. Read the first sentence aloud. **Say** *Is it a fact or an opinion? Remember a fact it something you can prove, and an opinion is what someone thinks about something. [blue text] Say Its is true. We can prove it.*
3. When the students are finished, go through the answers with the class. (Answers: **1. Fact 2. Opinion 3. Fact 4. Opinion**).

AIM: To read a text and verify facts critically.

TIME: 10–16 minutes

2 Think and write

1. Tell students they are going to read two texts on the same topic. **Say** *Each text has different facts in it*.
2. Read both texts aloud to the class. Then read the first sentence, pause, and ask *What are the important facts?* (**In 2020, Saddam Killany, Guinness World Record, longest saltwater dive**)
3. Have students continue reading the text and underlining the important information independently. Check the answers with the class (**2nd sentence 145 hours and 30 minutes – 3rd sentence – beat previous record by three hours, 4th sentence – ate, slept, prayed, 5th sentence – painted largest underwater painting, 6th sentence – two Guinness World Records**)
4. Then have students do the same with the second text. Then students form pairs. Give each pair a piece of note paper. **Say** *Make a list of facts that are the same in both texts and a list of facts that are different…*
5. Check the answers with the class. First, invite students to say which facts are the same. (**Saddam Killany, 2020, Guinness World Record**). Then ask them to say which facts are different and write these on the board under two headings: *text 1 and text 2* (**text 1 – underwater for 145 hours and 30 minutes, text 2 – underwater for 145 hours, 25 minutes, 25 seconds; text 1 – beat the record by 3 hours, text 2 – beat the record by under three hours (2 hours, 43 minutes, 43 seconds); text 1 doesn't say where this happened, text 2 says it happened in the Red Sea near Dahab; text 1 – while underwater he ate, slept, and prayed, text 2 – while underwater he got engaged; text 1 says he holds two Guinness World Records, text 2 only mentions one Guinness World Record.**)
6. Give students time to complete the second question. When students are finished, invite them to to share their ideas in a class discussion. (Suggested answers: **use a reliable online source, check in multiple sources**)

AIM: To help students identify websites for a classroom bookmark bar.

TIME: 5–8 minutes

3 Discuss and write

1. Read the directions aloud. Start a mind map by writing Bookmarks in the center of the board.
2. Ask students to look on the classroom computers to see if there is a bookmark bar. Have students share the websites on the bookmark bar and add these to the mind map. Then have them list additional sites that they think should be on the bookmark bar.

Learn by doing LESSON 6 Using digital sources

Life skills

1 Look and answer

Read each statement. Write *Fact* or *Opinion* next to each statement. Discuss your answers with a partner.

1. Some spiders work together to build giant webs. ____________
2. Spiders are big and hairy. ____________
3. Wind and rain often damage a spider's web. ____________
4. You shouldn't kill spiders in your house. ____________

2 Think and write

1. Read the two texts. Underline the important facts in each text. Put a checkmark next to each fact that is repeated in the second text. Put a question mark next to facts that are different in each text.

   Text 1: In 2020, Saddam Killany set a Guinness World Record for the longest saltwater dive. He remained underwater for 145 hours and 30 minutes. He beat the previous record by three hours. While underwater he ate, slept, and prayed. He also painted the largest underwater painting. Now he holds two Guinness World Records!

   Text 2: Imagine spending six days of your life underwater. Saddam Killany spent 145 hours, 25 minutes and 25 seconds underwater in the Red Sea, near Dahab, to set a Guinness World Record for diving. The previous record was 142 hours, 42 minutes and 42 seconds. Killany also got engaged underwater to his fiancée, Pia Lagora.

2. What would you do to verify the different facts in each text?

____

3 Discuss and write

Does the browser on your school or home computers have a bookmark bar? If so, list the sites on the bar here. Add any additional sites you think should be on the bar. If your school or home computers do not have a bookmark bar, list the websites you would add to create a classroom bookmark bar.

____

____

____

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Issues and challenges

4 Read and choose

You want to use online resources to conduct study research and want to identify the most reliable digital sources that enable you to accomplish your research task. Do you ...

1. use a website recommended by your teacher? and why? ☐
2. use one source in your research? and why? ☐
3. use an opinion that has been given on a website? and why? ☐
4. use archives and databases? and why? ☐
5. Follow copyright rules and laws? and why? ☐

Research

5 Think and answer

1. Brainstorm and write research topics you are interested in. Think about what you like or what you would like to know more about. It can be a broad subject such as music, an animal you like, or a famous person. Write at least five ideas. Then choose one idea as your topic.

____

____

____

2. Circle the different kinds of online sources you think will be helpful for your research report. Put a star next to the two kinds of sources that are most important.

articles diary entries letters

photographs videos

maps

graphs charts

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NOTE: If there is no bookmark bar on the classroom computers, or you aren't able to access computers with the class, have students share suggestions for websites to add to create a classroom bookmark bar.

3. When you are finished, review the students' suggestions with the class. Invite students to say why they have chosen particular websites and why they think they are reliable sources.

ISSUES AND CHALLENGES

AIM: To help students identify the most reliable digital sources that enable you to accomplish a research task.

TIME: 5–7 minutes

4 Read and choose

1. Read the directions and the prompts aloud. Verify that students understand what they have to do.
2. Have students complete the activity independently. Invite students to share their answers and give reasons. (**1, 4, 5**)

RESEARCH

AIM: To prepare students to do a research report using reliable sources.

TIME: 6–8 minutes

5 Think and answer

1. For question 1, write some examples of research topics on the board:
   exotic plants, sea animals, adventure novels
2. Tell students to write a list of research topics that interest them in their books. When students are finished, ask them to choose one idea from their list.
3. For question 2, have students think about their own research topic and choose the most important sources. Then form pairs and ask them to share their answers.

EXTENSION ACTIVITIES

1. Write *sea animals* on the board. Ask students to name some examples of sea animals and write these on the board, too, e.g.: *whale, shark, starfish, dolphin*. Ask students what sort of things they could research about a whale and elicit some ideas, e.g.: *where it lives, what it eats, where it travels*. Then ask them to think about the research topic they chose. Tell them to write a list of things that they could research about their topic.

LESSON 7 pp. 70–71

Advanced searches

OBJECTIVES
- Choose specific and accurate online search terms.
- Use search engines and advanced searching tools.
- Identify online sources that meet my research needs.

LIFE SKILLS
- Learning to do: productivity

VALUES
- Scientific values: curiosity
- Work values: proficiency, perseverance

ISSUES AND CHALLENGES
- Globalization issues: civilizational communication

MATERIALS NEEDED
- Pieces of paper (Learn and Explore)
- Computers with internet access (Learn by Doing)

LESSON 7 Advanced searches

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**		
• Choose specific and accurate online search terms.	☐ Very well	☐ OK	☐ Need more work
• Use search engines and advanced searching tools.	☐ Very well	☐ OK	☐ Need more work
• Identify online sources that meet my research needs.	☐ Very well	☐ OK	☐ Need more work

Engage

Worldwide, how many internet searches do you think are completed every day?

Learn

Getting specific search results starts with a specific topic and research questions. "The Aswan Dam" is not a specific topic. "The construction of the Aswan Dam" is specific. For this topic, the research questions might include:

What materials were used to build the Aswan Dam? How many workers built the Aswan Dam?

You can use your research questions to find **keywords** for your online search. The keywords in the first question above are "materials" and "Aswan Dam." The keywords in the second question are "how many" (or "number"), "workers," and "Aswan Dam."

Accurate search terms

Use synonyms to make your search terms more accurate. For example, you want to research the amount of time 13- to 18-year-old people spend online each day. You use the search string *children time computer,* but there are too many results.



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OBJECTIVES

AIM: To encourage students to take responsibility for their own learning needs and paths.

TIME: 2–3 minutes

- Follow the steps for **Routine 1: Time to Explore!**
  1. Draw students' attention to the lesson topic. **Say** *This lesson, we're going to learn about advanced online searches.*
  2. Read the objectives aloud to the class.
  3. Write on the board *Now's our chance to explore advanced online searching.* To ensure that students think in detail about the objectives, write more actions directly below *explore*, e.g.: *think about, learn about, study, discuss, look at, investigate, consider, plan.*
  4. Give students a minute to look at the lesson and assess what they'll explore.
  5. Elicit answers from individual students, e.g., **Now's our chance to ... learn more about search engines, investigate online sources, plan what terms to use to search for something online, etc.**

ENGAGE

AIM: To enable students to participate confidently and collaboratively in a class discussion that leads to the objectives of the lesson.

TIME: 2–5 minutes

- Follow the steps for **Routine 6: Think-Pair-Share**.
  1. Introduce **Engage**.
  2. **Say** *I'm going to ask you a question. Don't say anything! Just think about it quietly.*
  3. Read aloud the question. Let students think silently about some possible answers. They may take simple notes if they wish.
  4. After 30 seconds, say *Now sit shoulder to shoulder with a classmate and share your ideas. Give reasons for your answer.*
  5. Check that students are comparing their ideas with a classmate.
  6. **Say** *I'm going to ask the question again. This time, put your hand up to answer.*
  7. Read the question aloud again. Call on students with their hands up and have them share their ideas with the class.

OPTIONAL: To encourage more discussion, ask follow-up questions *<Name> What do you think are the most popular search engines / websites / things that people search for on the internet?*
<Name> Do you agree?

LEARN

AIM: To motivate students to read a long text; enable students to achieve the lesson objectives.

TIME: 15–20 minutes

- Follow the steps for **Routine 12: K-W-L Chart**.

BEFORE READING

1. Draw a chart with three columns on the board. Label the columns: K, W, L.
2. **Say** *Copy the chart into your notebook or on a piece of paper*.
3. **Say** *K means: What do you Know about this topic? W means: What do you Want to know about the topic? L means: What have you Learned about the topic? Before we read, we're going to complete columns K and W. After we read, we're going to complete column L.*
4. Have students sit shoulder to shoulder.
5. **Ask** *What do you Know about the topic? Share ideas and note them in column K.*
6. **Ask** *What do you Want to know about the topic? Share ideas and write them in the column W.*

AFTER READING

7. After students have read the text, ask *What did you Learn about the topic? Share ideas and write them in column L.*

OPTIONAL: Have the students review column W. **Ask** *What else do you Want to know? If the answer wasn't in the text, where can you find the information?*

8. Point to the relevant lesson objective(s). **Say** *Now you can choose specific and accurate online search terms and use search engines and advanced searching tools. Good job!*

<table>
<tr><th colspan="7">Teaching support for an integrated classroom</th></tr>
<tr><th>Intellectual disability and slow learning</th><th>Autism</th><th>Hearing impairment</th><th>Attention deficit hyperactivity disorder</th><th>Learning disability</th><th>Motor disability and cerebral palsy</th><th>Blind and weak sighted</th></tr>
<tr><td colspan="5">- Writing a glossary on the board of key terms (keyword, search string, advanced searching tool, search engine) and their explanations to be used as a reference during the lesson.
- Showing students examples of searches using search strings, keywords, advanced searching tools, Boolean operators, and search modifiers using a computer and screen or interactive whiteboard.</td><td>- Supporting students by asking their classmates to help them write.
- Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible.
- Including them in groups and giving them tasks according to their disabilities.</td><td>Describing the chart in Learn by Doing to blind students.</td></tr>
</table>

Changing the search string to *teenagers time online* will narrow the results. If you put the search string in quotation marks, your search will be narrowed even more, to only results with the exact terms in quotation marks.

Some search engines suggest keywords and similar searches. Search engines also have an advanced searching tool that helps you limit search results. You can use them to combine, or exclude, keywords or limit the results to specific domains such as .edu or .gov.

Boolean operators and search modifiers

AND – Results will include both terms. **Example:** video games and teenagers	" " – Results will include the exact terms. **Example:** "video games"
OR – Results will include either term. **Example:** child or teenager	( ) – Results prioritize what is in parentheses. **Example:** (video games) teenagers
NOT – Results will not include the terms. **Example:** video games not online	* – Results will include all forms of a word. **Example:** teen*

Search results

Scan the summary for each search result. Look for titles connected to your topic and keywords in bold. Scan for facts that answer your research questions. Choose the results that have many of these items. Then click on each possible source and skim the content. Look for titles, headers, and keywords that match your research topic and questions. Choose the sources with the best match.

Explore

Think about a local or global issue that you are passionate about. Write down search terms you would use to find out more about the issue. Share your issue and search terms with your class.

Review

1. Why might you use a search result with a specific domain name, such as .edu or .gov?
2. Have you had search results that were not accurate? Why were they not accurate? What did you do?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Most people believe that a higher a website is on the list of search results, the more relevant it is to the search topic. However, often, the results near the top of the page are sponsored by companies to promote their websites; this can lead people to click on them in the mistaken belief that they are relevant to their search.

To make an online search more specific and relevant, use more keywords, add a minus (–) sign before a keyword to eliminate that word, or add a plus (+) sign to make sure that all your results include that word. If you want your results to come from a specific website, type in the keywords and then add **site**: plus the website's URL to get results from that specific domain.

TEACHING TIP

Some students may struggle to understand how to use keywords. You can work through an example to help them. On the board, write *What sharks can you see in the Red Sea?* Ask students to identify the question word (What) the punctuation (question mark ?), and the auxiliary word (*can*) and cross these out: ~~What~~ sharks ~~can~~ you see in the Red Sea~~?~~ Then, ask students to identify the most important words that are left – these are the keywords – and circle these: *~~What~~ sharks ~~can~~ you see in the Red Sea~~?~~*

HOME-SCHOOL CONNECTION

Ask students to practice another keyword search – substitute 'sharks' for 'fish'.

EXPLORE

AIM: To enable students to work quickly, creatively, and collaboratively to generate ideas; lead an activity based on their ideas to meet the objectives.

TIME: 10 minutes

- Follow the steps for **Routine 20: Brainstorm**.
  1. Introduce the **Explore** topic. Read the instructions aloud.
  2. **Say** *Now we're going to think of lots of ideas, quickly, without stopping!*
  3. Have students sit in groups of three. Say *Choose a topic.*
  4. **Say** *One person in the group needs a piece of paper and a pen (or pencil). He or she will write your group's ideas down on the paper.*
  5. **Say** *You have five minutes to write down all the ideas you can think of! Don't stop!*
  6. **Say** *Go!* The activity begins. After a few minutes, call *Stop!*
  7. Give the students time to read the ideas on their piece of paper.
  8. **Ask** *What ideas did you think of? Tell the class an idea that you like.* Lead a group discussion based on their brainstorm ideas.

REVIEW

AIM: To check and consolidate the knowledge students should have learned today.

TIME: to be completed at home

- Follow the steps for **Routine 26: Family test**.
  1. Draw students' attention to **Review**.
  2. **Say** *You're going to ask a family member to test you on your knowledge*.
  3. **Say** *First, you are going to copy some questions on a piece of paper. Later on today, someone in your family will ask you the questions. Tell them everything you know!*
  4. Have students copy the review questions to take home so that family members can test them.
  5. When students return to class, follow-up by asking them if they were able to answer the questions easily.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop; encourage critical thinking.

TIME: To be completed at home

- Follow the steps for **Routine 28: 3–2–1**.
  1. Draw students' attention to **Self-Assess**. Read the first instruction aloud and point to the *I can…* boxes.
  2. **Say** *Think about how well you can do each Objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
  3. Remind students to be honest!
  4. **Say** *After you've completed the self-assess, write a short list for me:*
     - *three things you found interesting in this lesson*
     - *two questions you still have for me*
     - *one thing you felt proud about, maybe something you did well.*

OPTIONAL: Write the list on the board for students to copy.

  5. Next lesson, clarify any questions that students still have.

Learn by doing LESSON 7 pp. 72–73

COMPREHENSION

AIM: To make connections between new vocabulary for searching online.

TIME: 6–8 minutes

1 Write and compare

1. Read the directions and prompts. Verify that students understand what they are supposed to do.
2. In pairs students explain the connection between the pairs of terms.
3. Invite pairs to share their answers. Provide feedback as necessary. (Suggested answers: **1. Search terms are keywords that you use to find information for a research question. 2. A search string is a combination of keywords, numbers, and symbols that you enter into a search engine to make the results more accurate. 3. A search engine is used to look for information online, and some search engines have advanced searching tools to limit search results further.**)

RESEARCH

AIM: To help students to plan a research project.

TIME: 3–5 minutes

2 Select your topic

1. Ask students to choose one of research topics from their list in Lesson 6, for a research report.
2. Tell students that they should narrow their topic if it is too broad. For example, for *Animals*, they could narrow their topic to one type of animal. Walk around and help them, as needed.

AIM: To write research questions.

TIME: 6–8 minutes

3 Write research questions

1. Remind students that on page 70, they read an example of a research question. **Ask** *What was the topic?* (**The construction of the Aswan Dam**) *What were some possible research questions?* (**What materials were used to build the Aswan Dan? How many workers built the Aswan Dam?**)
2. Provide students with an example. On the board, write the topic: *Adventure novels.* Ask the class to suggest research questions, e.g., *What are the most popular adventure novels of all time? What is the format of an adventure novel?*



Advanced searches

Comprehension

1 Write and compare

Write a sentence for each set of words to explain the connection between them.

1. research questions and search terms

____

2. keyword and search string

____

3. search engine and advanced searching tool

____

Research

2 Select your topic

Review the topic you selected in the last lesson. Narrow the topic if it is too broad. Write your topic here. Review it with a partner and your teacher.

____

3 Write research questions

Write two or three research questions for your topic. Then circle the words in each question that you can use for search terms.

____

____

____

4 Choose search terms

Write the search terms you circled in the last activity. Add or change the terms to make them more specific and accurate.

____

____

____

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3. **Say** *Write research questions for your own research topic.* Students complete the activity independently. Walk around and help them, as needed.
4. When they are finished, ask the class to share what they remember about search terms. Then tell them to circle words in their research questions that could be used as search terms when doing online research.

AIM: To help students identify what search terms to use for their research project.

TIME: 3–5 minutes

4 Choose search terms

1. Remind students that search terms should be specific. **Ask** *What happens if your search terms are not very specific?* (**You get a lot of search results, and the search results are not always relevant.**)
2. Review with students how they can make their search terms more specific (Suggested answers: **Use quotation marks and parentheses to prioritize certain terms, use NOT to exclude certain terms, use synonyms**).
3. Have students complete the activity independently.

5 Analyze search results

List the domain name of the sources you think will best answer your research questions. If you have Internet access, check the items each resource has.

Domain names	Do I see...			
	my key-words?	a title that matches my topic?	headers that match my topic?	facts that answer my research questions?
1.				
2.				
3.				
4.				

Critical thinking

6 Think and write

How would you change or combine these keywords, or use advanced search engine tools, to give you results that are about riding horses near the Red Sea rather than about red seahorses? Try your keywords online. Revise your search until you get accurate results.

Keywords: Red Sea horses

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AIM: To analyze the effectiveness of their search terms when doing online research.

TIME: 8–10 minutes

5 Analyze search results

1. **Say** *Now you are going to test out your search terms.* Draw students' attention to the chart and read the headings aloud.
2. Explain that students (independently) are going to search online, using their search terms, and choose four websites that will help best answer their research questions. Students look at the information on each website and use it to complete the chart. Students write the domain name of each website in the first column.
3. Set a time limit of ten minutes . Walk around to offer help as needed.

CRITICAL THINKING

AIM: To help students consolidate what they have learned about search terms through theory and practice.

TIME: 5–8 minutes

6 Think and write

1. Read the instructions aloud.
2. Form pairs or small groups. Students discuss together how they could improve their keywords or use advanced search engine tools to get more accurate information. Allow students to test out their ideas online before writing them in their books.
3. Invite students to share their ideas and results. Provide feedback.

EXTENSION ACTIVITY

Have students use a concept map to practice working with research questions. Start a mind map by writing **Virtual Reality Games** in the center. **Say** *This is a topic I would like to learn more about.* **Ask** students to suggest topics related to virtual-reality games and complete the mind map. Then focus on each topic and ask for suggestions on things to research within that topic and add more branches. Then ask students to choose another topic that interests them and create a concept map.

LESSON 8 pp. 74–75

Documenting information appropriately

OBJECTIVES

- Explain how to take notes and paraphrase online content.
- Identify the reasons for quoting online content and how to do it.
- Explain how to cite online sources.

LIFE SKILLS

- Learning to do: decision-making, productivity

VALUES

- Work values: proficiency

ISSUES AND CHALLENGES

- Citizenship issues: legal awareness

MATERIALS NEEDED

- Sheets of paper (Explore)
- Computers (Learn by Doing)

LESSON 8 Documenting information appropriately

Objectives

By the end of the lesson, I will be able to:	After the lesson, check the correct box: **I can . . .**
• Explain how to take notes and paraphrase online content.	☐ Very well ☐ OK ☐ Need more work
• Identify the reasons for quoting online content and how to do it.	☐ Very well ☐ OK ☐ Need more work
• Explain how to cite online sources.	☐ Very well ☐ OK ☐ Need more work

Engage

Which do you prefer, taking notes on paper or using computer software? Why?

Search sources by keyword To search an online source by keyword, type CTRL + F and enter the term in the search box. The keyword will be highlighted everywhere it appears on the page.

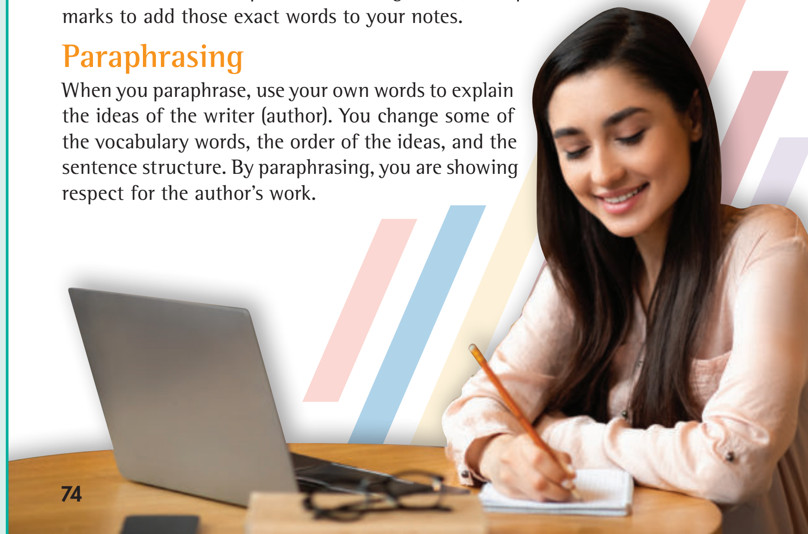
Learn

Taking notes

A research paper is written in your own words. This is easier to do if you start with notes written in your own words. For each source, add the URL and the author's name at the top of your notes. Reread each note. If information is missing, return to the source and find the missing information. When an author's words are important or unforgettable, use quotation marks to add those exact words to your notes.

Paraphrasing

When you paraphrase, use your own words to explain the ideas of the writer (author). You change some of the vocabulary words, the order of the ideas, and the sentence structure. By paraphrasing, you are showing respect for the author's work.



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OBJECTIVES

AIM: To ensure that students understand the objectives of the lesson.

TIME: 2–3 minutes

- Follow the steps for **Routine 3: Understanding Objectives**
  1. Draw students' attention to the objectives. Say *To meet the objectives of a lesson, it's a good idea to make sure that you understand what the objectives are actually saying.*
  2. Read the objectives aloud to the class.
  3. **Ask** *Are there any words or phrases in the objectives that you have forgotten? What are they?*
  4. Explain any forgotten terms or vocabulary. Some students, for example, may need to be reminded of *paraphrase*, *quote*, and *cite*.Explain, e.g., *"Paraphrase" means "say or write what someone has said or written using your own words"; "Quote" means "say or write the exact words that someone said or wrote" "Cite" means "use something as an example – to provide support for your ideas".*
  5. Remind students that they will check the *I can...* boxes after completing the lesson.

ENGAGE

AIM: To help students to achieve the lesson objectives by sharing their opinion.

TIME: 3–5 minutes

1. Introduce Engage. Read the question aloud.
2. Form pairs or small groups. Have students discuss the question together.
3. Take a class vote. Ask *Who prefers taking notes on paper?* Tell students to raise their hands. Ask a few students to share why they prefer using paper. Then ask *Who prefers taking notes on a computer or cell phone?* Tell those students to raise their hands. Ask a few students to give their reasons.

LEARN

AIM: To help students' comprehension of a long text; to practice students' reflection and analytical skills.

TIME: 15 minutes

- Follow the steps for **Routine 17: Asking Questions**.
  1. Write the following questions on the board: *What are the facts of this text? What does the author want me to understand?*
  2. **Say** *We are going to read a text about taking notes for a research project*. Have volunteer students read the text aloud (sentence by sentence or paragraph by paragraph) to the class.
  3. Then point to the questions on the board and read them aloud. Say *Now I want you to read the text again and try to answer these questions. You may take notes on a sheet of paper.*
  4. Students read the text again and identify what the facts are, and what they think the author's purpose for writing was.
  5. Form pairs and have students share their ideas.
  6. Ask the whole class the questions and have volunteers share their answers.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
- Simplifying the text on taking notes for a research paper into short and simple sentences. - Listing abbreviations and their full forms (e.g., URL – Uniform Resource Locator) on the board for reference during the lesson, and checking that students know what they are.					- Supporting students by asking their classmates to help them write. - Making their responses simpler, they could be oral responses, signs or hand gestures, or answers via a computer, if possible. - Including them in groups and giving them tasks according to their disabilities.	Reading aloud the two sources cited on page 75 so that students can understand how the information is ordered.

Using quotes

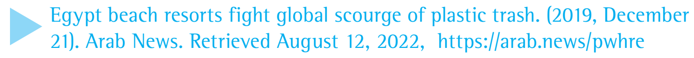
Quotes support your ideas and arguments. When you include a quote, you state where the quote came from and why you are using it. You can use sentence starters to share this information.

In the article ____(article title)____ it said ...	This shows that ...
According to ____(author's name)____ ...	This proves that ...
____(author's name)____ states ...	This illustrates ...

Citing sources

At the end of a research report, you list your sources on a Works Cited page. Because websites change, some online sources include a permalink to use as the cited web address. This is a permanent hyperlink, a highlighted word or picture you click on to take you to another web location. Look for a "share" or "cite this" button to find the permalink. You can ask your teacher for help to view one of these hyperlinks.

When you cite a source, you should use the following method:
Put the citations in alphabetical order by the author's last name or the title of the article, if there is no author. Then give the source, the date, and the URL.



Egypt beach resorts fight global scourge of plastic trash. (2019, December 21). Arab News. Retrieved August 12, 2022, https://arab.news/pwhre

For a YouTube video, use the uploader as the author, the date, the video title followed by the word "video", the site name, and the URL.



RTV, 2019. Very Nile video. YouTube, https://www.youtube.com/watch?v=yH5SVlgN_gY

Explore

With a partner, write a list of dos and don'ts for taking notes using online sources, including tips for paraphrasing and using quotes.

Review

1. How are paraphrasing and copyright law connected?
2. Do you think it's a good idea to copy and paste online content into your notes? Why or why not?

Self-assess

Go to the Objectives at the beginning of the lesson.
Check the correct I can . . . box.

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BE THE EXPERT

Not correctly attributing information to the author or source is called "plagiarism". Not only is it unethical to steal someone else's work and pass it off as your own, it can have very serious consequences. In an educational context, especially in higher education such as on a Master's or doctorate program, a student who commits plagiarism can be expelled and/or lose funding. Sometimes plagiarism is accidental, because the writer cited the source incorrectly or simply forgot to include it; that is why it is important to include the source in your notes, so you do not have to look back and find it later.

TEACHING TIP

Explain to students that, just as each of them has personality traits that you get to know over the year(s) that you teach them, their writing has a "personality," too. Tell students that teachers can usually tell when a research paper contains text that is copied exactly from a source without quotation marks or when text isn't paraphrased correctly, as the style of writing is very different from the student's usual style.

HOME-SCHOOL CONNECTION

Ask students to share a text with their family, which contains a quoted text from elsewhere. Can their parents correctly, identify the text that is different to their normal style?

EXPLORE

AIM: To enable students to organize what they have read using a graphic organizer and to compare and contrast ideas.

TIME: 7–10 minutes

- Follow the steps for **Routine 23: T-Chart**.
    1. Draw students' attention to **Explore**. Say *In the text, we read about taking notes, and now we are going to think about this a little more.* On the board, draw a T-chart with the column headings Dos and Don'ts:

Dos	Don'ts

    2. Form groups. Give each group a sheet of paper. **Say** *In your groups, talk about the dos of taking notes, or the things that you should do. Write these in the first column. Then talk about the don'ts of taking notes, or the things you shouldn't do. Write these in the second column.*
    3. Have students discuss and complete their T-charts. Move around and listen to groups as they are talking. Give help, if needed.
    4. When students are finished, get feedback from the groups. (Suggested answers: see below)

Dos	Don'ts
• Use CTRL + F to search by keyword • Write notes in your own words • Add the URL and the author's name • Reread each note • add quotation marks to the author's exact words • Use paraphrasing • Use quotes to support your ideas • List your sources on a Works Cited page	• Copy the author's words exactly (unless you add quotation marks to show they are the author's words) • Don't forget to list your sources • Don't forget to support your ideas with quotes (in quotation marks)

OPTIONAL: Students can copy their group's T-chart into their notebooks.

REVIEW

AIM: To check and consolidate the knowledge that students should have learned today.

TIME: 4–6 minutes

- Follow the steps for **Routine 27: Quick Write.**
    1. Draw students' attention to **Review**. Read the questions aloud.

OPTIONAL: Before students begin writing, you may want to give them time to reread the text from Lesson 5 about intellectual property rights to remind them what copyright is.

    2. **Say** *You don't need to spend a lot of time thinking about your responses. Just write the first thing that comes into your mind. Ready? Begin!*
    3. Give students four or five minutes to write their responses.
    4. When they are finished, invite students to share their responses with a classmate.

SELF-ASSESS

AIM: To help students complete a truthful self-assess and find the assistance they need to further develop.

TIME: To be completed at home

- Follow the steps for **Routine 29: Promise!**
    1. Draw students' attention to Self-Assess. Read the first instruction aloud and point to the *I can…* boxes.
    2. **Say** *Think about how well you can do each objective. You have three choices: I can do it very well, I can do it OK, and I need more work. Check the correct box at home.*
    3. Remind students to be honest!
    4. **Say** *After you've completed the self-assess, write a promise. Complete the sentence: In the next lesson, I'm going to try to….*

OPTIONAL: Elicit some ideas from students and write them on the board, e.g.: *I'm going to try to… take notes during class, ask the teacher when I don't understand, take part in class discussions, listen when others speak.*

    5. Praise students for their efforts.

Teaching support for an integrated classroom						
Intellectual disability and slow learning	**Autism**	**Hearing impairment**	**Attention deficit hyperactivity disorder**	**Learning disability**	**Motor disability and cerebral palsy**	**Blind and weak sighted**
Use the demonstration strategy to explain the part about citing sources.						



COMPREHENSION

AIM: To analyze the organization of a "Works Cited" page.

TIME: 8–10 minutes

1 Think and answer

1. Ask the class to say what they remember about a "Works Cited" page. (**It is a list of websites that you used to find information for your research report.**)
2. **Say** *A "Works Cited" page needs to be organized in a specific way.* Read the directions and the prompts aloud. You may want to explain that "date of retrieval" means the date that you read the source, and "date of publication" is the date that the author made the information available.
3. Ask students to read the two "Works Cited" examples on page 75. Read the first one together. **Say** *Look at the list of prompts: which ones are included here?* (Answers: **title – "Egypt beach resorts fight global scourge of plastic trash; name of the publication – Arab News; date of publication – 21 December 2019; database name – Web; date of retrieval – 12 August 2022; URL – https://arab.news/pwhre**).
4. Form pairs and have students do the same for the "Work Cited" example on page 75.
5. Have students look at their answers to the examples and number the components in order. Then have them compare their answers in groups.
6. Invite volunteer students to say the answers. Provide feedback as necessary. (Answers: **4 date of publication; 2 title; 3 name of the publication; 5 date of retrieval; 6 database name; 1 author's name; 7 URL**)

RESEARCH

AIM: To put into practice what they have learned about note-taking.

TIME: 8–10 minutes

2 Take notes

1. Remind students that in Lesson 7 they did a research project and used online searches to find four websites to help them answer one of their research questions.
2. **Say** *Now you are going to do some research on these websites and take notes. First, look at the list you made in Lesson 7 and choose the best three sources.* **Ask** *How can you decide which three are the best?* (**Look for the three websites that have the most checks in the "Do I see ...?" columns.**)
3. **Say** *Think of your research question and take notes to answer your question(s). Remember to follow the dos and don'ts of taking notes!*
4. Give students a few minutes to do their research and take notes. Go around and help them as needed.

AIM: To write a paragraph using their online research results.

TIME: 8–10 minutes

3 Write your paragraph

1. Tell students that they are going to use their notes to write a paragraph answering their research question. Read the directions aloud. Remind students that they should paraphrase – write in their own words – the information they read online and use sentence starters and quotation marks for any exact words that they copy from a source.
2. Have students write their texts. Walk around and help them as needed.
3. Form pairs. Have students swap texts and read them. When they are finished, they take turns giving their partner feedback on their paragraph.

Learn by doing **LESSON 8** **Documenting information appropriately**

Review the websites you selected in the last lesson. Take notes on the content that matches your topic and research questions. Write a paragraph about your topic. Create a "Works Cited" page for the websites you used in your research.

Comprehension

1 Think and answer

Review the "Works Cited" entries in the lesson. In what order does the information in the entries appear? How is the information in the entries ordered? Order the components from 1 to 7.

☐ date of publication	☐ author's name
☐ title	☐ date of retrieval
☐ name of the publication	☐ URL
☐ database name	

Research

2 Take notes

Review the sources you selected in the last lesson. Take notes for the three best sources on the list.

Source #1

Domain and author(s) names: ______________________

____

____

____

____

Source #2

Domain and author(s) names: ______________________

____

____

____

____

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Source #3

Domain and author(s) names: ____________________

____

____

____

____

3 Write your paragraph

Use the space below to write your paragraph. Don't forget to paraphrase from your notes and use quotations if appropriate.

____

____

____

____

____

____

____

____

____

Issues and Challenges

4 Think and discuss

Studies show that students use someone else's content without permission at least once. Why do you think this happens? What problems might this cause for someone who uses other people's content on a regular basis?



Imagine a world where students only copy and paste other people's online content into their research papers. Would this affect students' learning? How? How might it affect the rest of their lives? How might it affect the world?

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OPTIONAL: Write the following discussion questions on the board:

Does the paragraph use sentence starters?
Does the paragraph use quotation marks for exact words?
Can I tell that my partner has used his/her own words to paraphrase information?

ISSUES AND CHALLENGES

AIM: To think critically about the potential issues surrounding online research and communicate ideas.

TIME: 5–8 minutes

4 Think and discuss

1. Draw students' attention to the questions in **Issues and Challenges**. Read both questions.
2. Form pairs or small groups. Give students time to choose one question and to discuss it in their groups. They may take short notes if they choose.
3. Invite groups to share the responses that they wrote to the prompts. Provide feedback as necessary.
4. If there is time, groups can discuss the remaining question.

EXTENSION ACTIVITIES

1. Have students make a short presentation of their research question and their paragraph to the class.
2. Have students add a "Works Cited" list after their paragraphs with the online sources they used. Remind them to follow the correct organization (as shown in Activity 1 and on page 75).

REVIEW Theme 2 pp. 78–79

VOCABULARY

AIM: To enable students to review vocabulary they have learned in this unit.

TIME: 8 minutes

1 Write and compare

1. Read the directions and the prompts aloud. Verify that students understand what they have to do.
2. Give students five minutes to write their sentences.
3. **Say** *Now you are going to get in pairs and compare your sentences. Then you are going to look back at the lessons and check your answers.*
4. Walk around monitoring students.
5. Invite volunteer students to share their sentences with the class. Provide feedback as needed.

REVIEW QUESTIONS

AIM: To enable students to review what they have learned in this unit.

TIME: 8 minutes

2 Read and answer

1. Read the questions aloud. Give students five minutes to write their answers.
2. Students pair up and do the activity. Walk around monitoring students.
3. Check the answers as a whole class. Ask students to raise their hands to give their answers. (Suggested answers: **1. Personal information, such as your name, address, date of birth, and your passwords; 2. Use different passwords for different things, use anti-virus software, update your devices regularly; 3. A password and a one-time code sent by text or email, or a password and a fingerprint, etc.; 4 Stop communicating with the person, check out their profile to see if it is real or fake; 5. To support your ideas and arguments; 6. It helps you know all the important facts about a topic, you can cross-check facts to make sure they are true; 7. Use accurate search terms, use advanced search tools on search engines, limit your results to particular domains (e.g., those that end .gov); 8. It should contain the same ideas, but should be rewritten in your own words, not copied.**)

REVIEW Theme 2

Vocabulary

1 Write and compare

Write a sentence for each set of words to explain the connection between them. Then compare your sentences with a partner.

1. PII and phishing

____

2. harmful content and reliable resources

____

3. copyright and documentation

____

Review Questions

2 Read and answer

1. What is personal data?

____

2. List three ways to keep your personal information safe online.

____

3. What is an example of multi-factor authentication (MFA)?

____

4. What actions should you take if you think an online profile is fake?

____

5. Why would you include a quote in a research paper?

____

6. List two reasons for using multiple sources in your research.

____

7. How can you ensure that a search result is as accurate as possible?

____

8. How should paraphrased text differ from the author's original text?

____

____

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Critical Thinking

3 Think and answer

1. The way that hackers try to steal PII will likely change over time. But what three essential pieces of advice for protecting PII would you give **now** to someone not familiar with the dangers?

2. How might a research report be affected if you use unreliable sources?

3. Many people believe "copying kills creativity." Do you agree that copying other people's work decreases creativity? Why or why not?

Essential Question

4 Think and complete

Think about the information you have learned in this theme. How does it help you understand how to protect yourself and your data online? Complete the sentence with your own ideas.

After studying this theme, I know that I can protect myself and my data when online because

Activity

5 Research, create, and show

What do you need to do when you write a research paper that includes the words and ideas you find online? Create a flowchart to help you. Think about:

- using your own words and ideas
- how much of someone else's writing you can use
- paraphrasing, and why quotes might be used in your research.

Invite your classmates to view and test your flowchart.

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CRITICAL THINKING

AIM: To enable students to understand the importance of collaboration in reviewing what they have learned in this unit.

TIME: 8 minutes

3 Think and answer

1. Place students in groups of six. Ask them to sit in pairs within their groups. Read the questions aloud.
3. Assign one review question to each pair within the groups so that, within the group, all questions will be answered. Say *You and your partner are responsible for your question. You need to write a thoughtful response.*
4. Give pairs a few minutes to discuss and write answers. Then ask them to stop.
5. Have pairs present their answers to the rest of their group. Say *Now it's your turn to present to each other. Explain your own answers clearly and answer any questions your groupmates have. Listen carefully to your groupmates' answers and ask them to explain anything you don't understand, or support what they have said with evidence.*
6. When students are finished, tell them to write the answers to all three questions in their books.
7. Invite students to share the answers with the class.

ESSENTIAL QUESTION

AIM: To support students in writing a short text based on what they have learned in the unit.

TIME: 8 minutes

4 Think and complete

1. Read the question aloud. Verify that students understand what they are supposed to do.
2. Have students complete the sentence independently.
3. When students are finished, form small groups. Have students take turns reading their sentences to each other.

OPTIONAL: A few students read their sentences to the class.

ACTIVITY

AIM: To create a flowchart to present what students have learned in this unit about writing a research paper.

TIME: 12 minutes

5 Research, create, and show

1. Read aloud the directions and prompts. Draw the following flowchart on the board as an example and go over the steps with the class.



2. Ask the class to suggest other steps you could add to the flowchart.
3. **Say** *Now it's your turn to make your own flowchart.* Have students complete the activity independently. Walk around and help.
4. When students are finished, form pairs and have them swap flow-charts to test them.

OPTIONAL: Display students' flowcharts around the classroom and invite students to look at and test their classmates' flowcharts.

PROJECT Term 1 pp. 80–81

VOCABULARY

AIM: To reflect on everything they have learned in this theme and participate in different stages of a project related to the theme.

TIME: 30–40 minutes

1 Read the title of the project carefully. Think about what you learned in Term 1 and how it will help you in your research and presentation.

1. **Say** *Today we are going to do a project.* Read the directions aloud. Verify that students understand what they will be doing by asking questions, e.g., *What is the project going to be about? What do you have to do?*

2 Who are you working with? Which adult will you go to for help if needed? Explain your choice.

1. Read the questions aloud.
2. Form small groups and have students work together in writing their answers to the questions.
3. Invite groups to share the responses that they wrote to the questions. Provide feedback as necessary.

3 Brainstorming techniques

1. **Say** *Now you know who you are going to ask for help, it is time to plan your presentation.*
2. Read the directions and the questions aloud. Ask the class to suggest a few ideas for each question in a class brainstorming session.
3. Then have students work in their groups to discuss their ideas and write their answers to the questions.
4. Invite groups to share the responses that they wrote to the questions. Provide feedback as necessary.

4 Gather information

1. **Say** *Now that you know how you are going to make your presentation, it is time to do research.* Read the prompts and ask the class to suggest any other sources. Write these on the board.
2. Read the question *What will you do to ensure you are searching safely and ethically [blue]?* Ask the class to give their responses. Write their responses on the board. Then have students write the ones they will use in their books. (Suggested answers: **Use quotation marks to narrow search results, use AND to include both terms, use OR to include either term, use NOT to exclude terms, use parentheses ( ) to prioritize these terms, use * to include all forms of a word; stick to trusted sites (e.g. .org, .edu), cross-check facts with more than one trusted site.**)
3. Read the text below the question aloud to remind students that they can use quotes and Boolean search operators when using search engines.

OPTIONAL: Ask students to share what they remember about quotes and Boolean search operators.

PROJECT Term 1

1 Read the title of the project carefully. Think about what you learned in Term 1 and how it will help you in your research and presentation.

Share information about an important Egyptian archeological discovery.
As a group, research information about important Egyptian archeological discoveries. Choose a discovery that interests your group the most, write about it, and present the results to the class.

2 Who are you working with? Which adult will you go to for help if needed? Explain your choice.

● ____________ ● ____________

3 Brainstorming techniques

How will you present your information? What kinds of device accessories might you need to use while preparing your presentation? For example: scanner, printer, storage device. Explain. What do you need to do to make your presentation a success?

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4 Gather information

What sources will you use to gather your information?		What will you do to ensure you are searching safely and ethically?
Search engines	☐	____________
The Egyptian Knowledge Bank (EKB)	☐	____________
The school library	☐	____________

Other: ______________________________

Remember: When using search engines, you can use quotation marks and the Boolean search operators discussed on page 70.

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5 Storing and organizing information

Think about what you've learned about computer networks, flash memory, and folders. How will you use what you learned in Term 1 to store and organize the information that you find?

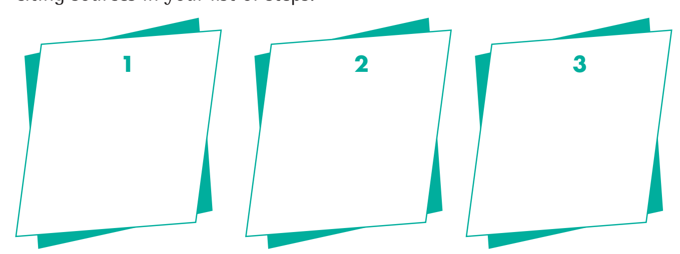
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Remember: Don't put everything on your desktop!

6 Our plan

Write down your plan for doing the project. Plan the steps. Remember: Include citing sources in your list of steps.



7 Our final product

Provide results of your research here. Don't forget to cite your sources! Example: I found this information on the Egyptian Knowledge Bank. It's in a book called *Tutankhamun's tomb discovered*, published by York Press.

8 Presenting our work to the class

How can we present the work? What will we say? What will we avoid doing?

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81

5 Storing and organizing information

1. On the board, draw a chart with three columns headed **Computer networks**, **Flash memory** and **Folders**.
2. Ask students to complete the chart by saying what they remember about each column. Complete the chart on the board.
3. Next read the directions and the question in the book aloud. Have students answer the question independently.
4. When students are finished, have them share their answers with their groups. They can make any changes if they want.

6 Our plan

1. **Say** *Now it is time to plan your project. Choose a discovery that interests your group and think about the steps you will follow to complete your research project.*
2. Read the directions aloud and verify that students understand what they are supposed to do.
3. Have students discuss their project steps in their groups and complete the organizer. Walk around and help students as necessary.
4. Invite groups to share their steps with the class. Provide feedback as necessary.

7 Our final product

1. Tell students that now it is time for them to do research for their project. Read the directions and the example aloud.
2. Have students work together and do research using different sources, following the plan they wrote. Walk around and help students as necessary.

8 Presenting our work to the class

1. **Say** *Your classmates want to know about the discovery you researched. Your presentation needs to be interesting and informative, so they can understand what the discovery is and other important information about it.*
2. Read the questions aloud and have students work in their groups to answer them. Walk around and help them as needed.
3. Give students time to prepare and rehearse their presentation.
4. Each group takes turns presenting to the class.

OPTIONAL: Ask students to summarize where they found their information at the end of their presentations.

Notes

Notes

Notes

Notes

المواصفات الفنية:

مقاس الكتاب:	١٩ × ٢٧ سم
طبع المتن:	٤ ألوان
طبع الغلاف:	٤ ألوان
ورق المتن:	٧٠ جرام كوشيه
ورق الغلاف:	١٨٠ جرام كوشيه
عدد الصفحات بالغلاف:	١٥٦ صفحة

















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Teacher Edition: Level 5
ISBN: 978-977-415-998-9

Sphinx Publishing Co.
9 Rashdan Street
Messaha Square
Dokki
Giza, Egypt

National Geographic Learning
Cheriton House, North Way,
Andover, Hampshire, SP10 5BE
United Kingdom

Locate your local office at **international.cengage.com/region**

Visit National Geographic Learning online at **ELTNGL.com**
Visit our corporate website at **www.cengage.com**

Printed in

Print Number: 01 Print Year: 2022

TEACHER'S BOOK

INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

PRIMARY GRADE 5

TERM 1
2022–2023









